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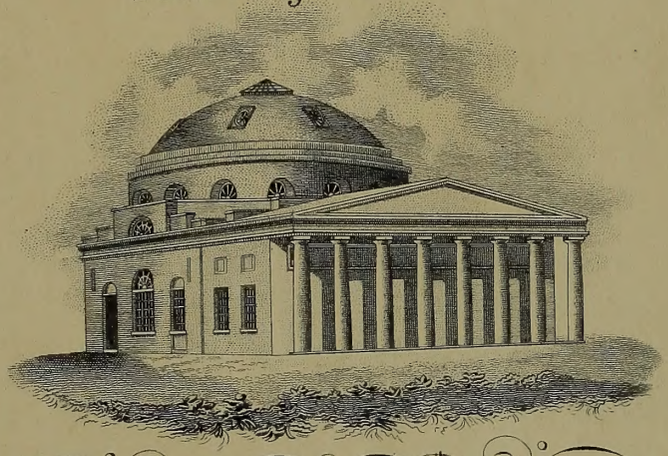

University of Maryland

Md.
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University of Maryland Theses

Early Theses of Medicine and Theses of Physic Transcribed with
Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine or for Doctor of Physic during the years 1813-1847. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in students' names, titles, and/or years. To address these errors, a corrected "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Berlin, Manuscript Libraries Preservation Officer, Maria Mingolla Forbes, Metadata Management Librarian, Angela Cochran and Carol Harling-Henry, Reference Division, Sarah Hynds, Alan Kopaz, and Megan Wolff, Services Division.

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(CORRECTED TABLE OF CONTENTS)

UNIVERSITY OF MARYLAND

THESES

1843

Author	Title
Worthington, Rezin H.	Gastric Hyperaemia
Wirt, William C.	Pneumonitis
Duvall, William W.	Iodine
Janney, Nathan H.	Scarlatina
Buchner, Charles S.	Structure and Functions of the Skin
Willard, James	Remittent Fever
Markham, James B.	Fevers of Alabama
Gamble, John G.	Pleuritis
Bowie, Augustus J.	Scurvy
Deaner, Joshua M.	Acute Gastritis
Prost, Henry	Prophylactic Means
Harrison, Samuel A.	Scarlatina
Councilman, John T.	Studies of a Physician
Diffenderffer, William H.	Anatomy, Diagnosis and Treatment of Dislocation of the Femur
Seiler, Jeremiah	Bronchitis
Baltzell, William Hewson	Fractures of the Femur
Hilliard, Robert C.	Carcinoma
Sappington, Greenbury R.	Gout

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Author	Title
Stone, James M.	Opium
Hagerty, Edward	Bloodletting
Lawrence, Richard	Pneumonia Biliosa
Bohrer, Benjamin F.	Practical Uses of Anatomy
Tilghman, Stedman R.	Strabismus
Mathais, William A.	Menstruation

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Worthington, ~~R.~~ Rezin H.	Gastric Hyperaemia	15p.
Wirt, William C.	Pneumonitis	36p.
Duvall, William W.	Iodine	27p.
Janney, Nathan H.	Scarlatina	16p.
Buchner, Charles S.	The Structure and Functions of the Skin	20p.
Willard, ~~J.~~ James	Remittent Fever	27p.
Markham, James B.	The Fevers of Alabama	32p.
Gamble, John G.	Pleuritis	31p.
Bowie, ~~A.~~ Augustus J.	Scurvy	14p.
Deaner, ~~Joslina~~ Joshua M.	Acute Gastritis	12p.
Prost, Henry	Prophylactic Means	40p.
Harrison, Samuel A.	Scarlatina	40p.
Councilman, John T.	Essay on the Studies of a Physician	14p.
Diffenderffer, William H.	Anatomy, Diagnosis and Treatment of Dislocation of the Femur	25p.
Seiler, Jeremiah	Bronchitis	17p.
Baltzell, William Hewson	Fractures of the Femur	18p.
Hilliard, Robert C.	Carcinoma	19p.
Sappington, G. Greenbury R.	On Gout	30p.
Stone, ~~Thomas~~ James M.	Opium	20p.
Hagerty, Edward	On Bloodletting	17p.
Lawrence, Richard	Pneumonia biliosa	21p.
~~Bahrer~~ Bohrer, Benjamin F.	The Practical Uses of Anatomy	21p.

24

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Tilghman, Stedman R.	Strabismus	32p.
Mathais, William A.	On Menstruation	23p.

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cases of an inflammatory character than almost any other part of the human system; if the stomach was as liable to derangements as other parts of the body it could no longer carry on its function with safety, every meal would be stimulus sufficient to excite inflammation and every digestion followed by Gastritis. So well is it adapted to the reception of matter which Nature in her wise ordinance has provided, that here it sets up that kind of excitement of the vascular system necessary for the due performance of its function. during digestion the vascularity of that organ is much increased. There are two primative states (morbid to which the stomach is liable, the first consisting) of lesions of its sensibilities, constituting the various nervous derangements brought on by sundry causes, and presenting almost the identical symptoms with those of an inflammatory character; for it is a well known law in pathology that two opposite states of the system produce the same effect; as an example take Uterine hemorrhage, here the amount of

† That is, identical symptoms

injury sustained by the loss of so great a quantity of blood, effects the stomach and system generally by diminishing its nervous power, and presenting symptoms simulating those bordering on inflamation or those produced by an opposite state of the system. The second in lesions of its circulation. The latter comprises in its form the great variety of diseases of the stomach termed inflammatory, which may vary from an increased fullness of blood not tending to the disorganisation of the part in which it may be situated but whose long continuance is not unfrequently followed by organic change to an active inflamation. The most simple form of derangement of the digestive organs is a morbid fullness or distension of the blood vessels of the mucous coats, which interfering with the natural offices of the parts, and laying the foundation of inflamatory disease; ordinarily results from irritation long continued and frequently repeated. Those irritations which produce sanguineous congestion are for the most part depend ent upon dietetic errors, and called Inflammatory Indigestion which in itself is not dangerous alt

though from improper treatment, we may convert that preternatural congestion into a true inflamation. Hence the necessity of ascertaining the condition of the stomach, before any plan of treatment be adopted. The symptoms attending this disease may vary from an increased distension after the admission of food into the stomach, to constant vomiting attended with dull pain, thirst, fever and headach. It may appear as a temporary affection, or from its constant appearance in the evanescent form, it may become permanent. The symptoms which characterise this form of derangement may be detailed thus. The patient has constant sense of uneasiness in the epigastric region increased by pressure and the introduction of food. distension of the stomach during digestion arising from the gaseous matter emitted by the debilitated organ during the performance of its function. Flatulence, nausea and vomiting are also among the signs which characterise this form of disease. Palpitations of the heart with accelerated pulse, headach and giddiness. The appearance of the tongue though considered by some the most

essential point by which to diagnose the existance of disease in the alimentary canal, varies; being sometimes intensely red, that is to say the papillae, at others of a yellowish white and furred. its state however, taken as an isolated symptom will afford no certain or even probable data on which to act in relation to the pathologic state ates of the gastric mucous membranes. "In the earlier stages of inflamatory indigestion there is every variety of tongue, and a clean and moist state of this organ may be found where the symptoms of gastric irritation are very urgent." Broussais and his pupils are of opinion that this depends upon an inflamed, and not merely of a congested state of the mucous membrane. yet there are many circumstances which prove that these are not indicative of a true inflamation, for we see them subsiding under the removal of the cause which produced them when they are slight; occurring and subsiding again, and thus continue for years without producing emaciation. the appearance of the stomach during digestion is (Mach-

ed by many red patches situated more part
icularly in the region of the pyloric orifice of
that organ. Dr. Beaumont has shown that the
mucous membrane of the stomach becomes red
and dry from undue excitement, sometimes
irregular circumscribed red patches, varying in
size are found in the internal coat. The pathol-
ogy then consists in the morbid fullness of the
blood vessels, requiring other alterations present to
constitute a true inflamation; these alterations
change either in colour or consistance of the
mucous membrane, in thickening or softening
of the mucous coat. M. Andral is of opin-
ion that inflamation of the stomach is seldom
unaccompanied by thickening, and the cases
which have fallen under our observation of those
who died at the Alms House within the last
two years have almost invariably been found
thickened, softened, and of a slatish colour. This stage
by neglect or maltreatment, may terminate in a true
inflamation of the stomach; or from the constant irri-
tation kept up may implicate other organs of
the economy, not less important than itself. Among

which are the Liver, the Lungs, the Heart and the Brain. digestion being performed by the concurrent action of the secretions of the stomach together with the fluids poured out by the salivary glands, pancreas, and the liver, we can readily imagine how its exercises its influence upon the liver, its being more immediately connected with the stomach by similarity of function than any other organ, though its actions are not limited strictly to the secretion of bile. Hence the greater the demands made upon the powers of the stomach when digestion is going on, the more the secreting power of the liver is augmented. increased secretion rarely goes on, unless there takes place in the secreting organ a determination of blood. from this circumstance an undue secretion of bile, is accompanied by a local determination of blood to the liver. Hypertrophy of the liver not unfrequently succeeds a long continued irritation of the stomach. The health of the general system may be measured by the non-existance of disease in its most important organs Hence the propriety of ascertaining whether they labour under a disease primarily, or from the inf

luence of other organs, or what is denominated a secondary affection. The lungs are affected through the medium of the Vagus nerve sympathetically, and by the increased action of the circulatory system, propelling the blood with preternatural violence into these organs. The lungs may also be affected by similarity of tissue thus we find after death from derangement of the gastro intestinal mucous membrane, a morbid fullness of the blood vessels supplying the mucous membrane of the bronchial tree, which give rise to hurried respiration and Cough, so much so, that occasionally the extreme Cough masks almost entirely the primary affection, that is the abnormal condition of the stomach. yet upon examination of the lungs by physical signs, no traces of serious lesions can be recognised, for no such lesions exists. Here we experience the inestimable value of Auscultation, for if the patient be treated for the pulmonary affection, the remedies required constantly aggravate the symptoms, and may, if persisted in, ultimately end in the destruction of the life of the patient.

the success of the treatment which will be spoken of on a future occasion, confirms the diagnosis. The chief symptoms then, of the commencement of pulmonary irritation as a consequence of disease of the digestive organs, are dry cough aggravated by the introduction of food and stimulating drinks, pain on some point of the thoracic parieties, oppression, constriction of the chest, accelerated or irregular respiration, these symptoms may appear with or without the existance of any abnormal condition of the gastric mucous membrane, so it need not be considered that the presence of those symptoms are a necessary consequence of a morbid change going on in that organ. The Heart is not unfrequently effected by hyperemia of the stomach, the first effects which we shall notice are certain irregularities of the former, which are independent of any appreciable change either as regards the consistence of its walls, the state of its valves or its investing or lining membranes. they consist of a preternatural frequency of its pulsations, or alterations of their character in which the regular and natural

Rhythm of the heart is lost, the systoles does not follow each other in regular succession, and the pulse is consequently intermitting; it is not at all uncommon to find persons labouring under these conditions, without any signs of disease existing in that organ, that is to say, signs of organic change by physical exploration. in some instances we find an increased frequency of the heart's action, accompanied by palpitations during digestion, these phenomena however, are not by any means the result of hyperemia only, they may also be produced by a morbid sensibility of the stomach, or by a confirmed inflamatory state of that organ. the next which shall occupy our attention is the effect of hyperemia of the stomach, upon the brain, which is not less influenced in the integrity of its functions (the brain) than the liver, lungs & heart. in many instances they are manifested during life by infinite varieties of forms or conditions of the reasoning and intellectual powers, from irritabelety of temper to confirmed lunacy. sometimes there is pain in the head with excitement, at others stupor is present, convulsions with paralysis are also sometimes conse

pend upon this form of disease, as does the convulsions and consequent paralysis in children occur from violent irritation of the gastro intestinal mucous membrane, the irritation being first transmitted to the brain ~~in~~ from thence reflected to the affected member. the effects of the head are for the most part cerebral congestions and are shown by the variety of symptoms that manifest themselves, thus many persons become so drowsy during digestion, while the mucous membrane of the stomach is highly vascular that it is with difficulty they enable themselves to keep awake, others again are tormented by intense frontal headache, while a third series are totally incapable of performing any intellectual act, and are perfectly stupid. the condition of the circulation at this period if examined will be found much increased both in frequency and force, and the head preternaturally hot. May we not suppose, then, with Andral, that in those who are predisposed, the process of digestion favors the return of congestion of the Brain; to a slight degree of these congestions, may be attributed the drowsiness exhibited by some persons after meals. With respect to diseases of the stomach, they possess

in certain cases a manifest influence on the developement of cerebral congestions. thus in all ages and particularly in infancy acute gastric intestinal affections may be accompanied by symptoms announcing the presence of an undue quantity of blood in the brain, the same happens though less frequently in chronic cases of gastro intestinal inflamation.[1] How then does the derangement of the stomach affect the brain, by sympathy or by the preternatural violence of the action of the heart and arteries propelling the circulating fluid in undue quantity into that organ, or by both conjoined? Let us now turn our attention to the treatment of this form of disease characterised by an undue quantity of blood in the gastric mucous membrane and endeavour so far as practible to simplify the remedies to the comfort of the sufferer and the description of the disease, without exausting the long catalogue of antidyspeptic and nervous medicines. Our object is to treat the disease according to its pathology, to prescribe for the disease not the name. if then the stomach be charged with any article of food difficult of digestion it would be advis

1 clinique médicale, by Spillan p 81

sable lest it inflict further irritation, to dislodge it, either by the administration of an Emetico Cathartic, or simply by an Emetic, that on which most reliance as to its beneficial effects can be placed, is Ipecacuanha an easy and efficient remedy. then if there exists tenderness and oppression at the epigastric region, and other signs indicating the existence of a morbid fullness of the blood vessels of the affected organ it would be proper as in any other congestion to premise Antiphlogistic measures. every one who has seen a case of Delirium arising from an Acute inflammation of the stomach must have been struck with the almost immediate relief attending the application of leeches to the Epigastrium, and the administration of pounded ice. then if such treatment be marked by so favourable a result in a true inflamation would it not also be proper to apply them in a condition of the stomach bordering on inflamation.. though by no means is it required in all cases, some persons are relieved by the removal of the cause which produced it, that is, the too free indulgence in the luxuries of the table, or by contracting a habit of using too frequently intoxicating draughts; others again are affected for a number

of years without any marked pathological change in the stomach, and finally recover under judicious management. If the epigastric tenderness be not marked and the bowels as they not unfrequently are full and confined, we may cure the disease by removing the stimulants from the plan of alimentation and confine the patient to milk and easily digested articles of food. it is in this form that aperients exercise such signal service when judiciously administered, but there is one thing to be borne in mind in their exibition viz., that the stomach and intestinal canal being in a morbid state, are particularly sensible to impression, and hence purgative medicines although clearly recommended is nevertheless sometimes attended by relaxation of the bowels approaching to Hypercatharsis. The aperient generally admitted to be beneficial in this form of disease is Pill Hyd gr ij Pulv Rhei gr iij Ipecac co gr 1 Mucilaginis q.s ft pil ij these may be taken twice or three times daily. If on the other hand much tenderness and pain exist in the epigastrium if the pulse be full, and hard, with a red and dry tongue, small relays of leeches will be of great use.

the application of four or six leeches repeated every three days applied during the period of digestion, requesting the Patient at the same time to abstain from all stimulating aliments, and to live upon thickened milk Sago or Farinaceous food have been found to act signally beneficial. Much stress is laid by some Physicians on the use of Mucilaginous and Acidulated drinks in active Hyperemias and not without foundation, in many instances they are productive of great relief to the Patient. as well as anodyne fomentations to the Epigastrium. I do not think that revulsives such as blisters the Tartar Emetic Ointment or plaster or frictions with croton oil are generally beneficial in this form of disease. The administration of Hydrocyanic Acid either alone or in combination with Morphia added to some mild Aperient is of singular use in various forms of disease of the stomach.

Finis

1843

An
Inaugural Dissertation
on
Pneumonitis
Respectfully Submitted
To the
Examination
of the
Provost Regents and Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
By
William C. West
Florida.

Acute Pneumonia.

Anatomical History & Etology.

The difference between this disease, and Bronchitis in an anatomical point of view, is rather difficult to be defined, as it is scarcely possible to say where the Bronchitis ends, and where the Pneumonia begins. The assertion, that Bronchitis is an affection of the mucous membrane, and Pneumonia of the parenchyma of the lung, is satisfactory only to the superficial inquirer. We know that the parenchyma is made up almost entirely of air-cells, and minute bronchial tubes. ~~and when~~ and when a lung is examined which has passed into the advanced stage of Pneumonia, we find the cells, and minute bronchial tubes obliterated by an exudation into them, so that he who would call Pneumonia a Bronchitis of the terminal tubes, would scarcely be guilty of a misnomer.

The parenchyma of the lungs consists of the air vesicles, the blood vessels surrounding them, and cellular tissue. The bronchi continue to divide and sub-divide, the ramifications becoming smaller & smaller after each division, until they terminate in vesicles

arranged in lobules. Each lobule receives a blood vessel which ramifies within it, and is distributed to the vesicles in the cellular tissue, which unites and binds them together — In a pathological view, the deeper ramifications of the tubes within the lobules may be considered as forming a part of the parenchyma, as they are always involved in the diseases of this tissue. Bronchitis then ought to be considered as an inflammation affecting the tubes extending to these lobules, but not the minute ramifications within the lobules.

Pneumonia may commence, either, as a Bronchitis, the inflammation extending from the smaller air tubes to the vesicles, or it may originate within the vesicles, and afterwards involve the larger tubes.

With regard however to the simultaneous existence of Bronchitis and Pneumonia, the latter appearing as a consequence of the former, there is a great diversity of opinion — Laennec was disposed to believe such an union extremely rare. Some auscultators of eminence affirm, that they have never observed it, while others, on the contrary, insist that the extension of the inflammation from the lining membrane of the smaller and capillary bronchii, to the air-cells, is a very common

phenomenon. — M. Grisolle gives the result of his experience upon this subject numerically. Of 201 patients from whom he was enabled to obtain positive and satisfactory information, 76 had coughed for a greater or less length of time before the developement of symptoms clearly referible to Pneumonia. Of these 76, 23 had laboured under the chronic form of Bronchitis for years. while in the remaining 53, the bronchial affection had at most existed for 3, or 4 weeks, at the time of the pneumonic seizure.

Site. — With regard to the relative frequency with which the two lungs are attacked, it would appear from the numerous cases examined by M. Grisolle, that the right lung is far more frequently the seat of the disease. This rule holds good with respect to all ages, and sexes. He supposed, that this frequency may be owing to the right lung being of greater size, and therefore more exposed to morbific agents. — Double Pneumonia in its primary stage is of rare occurence in the adult. In new-born infants it is vastly the most common form, and in advanced age more frequent than in adults. The lower lobe is most generally the seat of the disease.

next the upper lobe, and last the middle third of the organ. The tendency of the disease to affect different portions of the lung, varies with the age of the patient, and its preference for one part, over another, has been well marked in certain epidemic forms of the disease. It would appear, that Pneumonia of the apex, is about two and a half times as frequent in the right lung, as in the left side, particularly in individuals of weak constitutions.

Conditions of the Pleura. Inflammation of the pleura is more frequently found in the Pneumonia of adults, than either of the other two extremes of life. This lesion, together with the inflammation of the bronchial mucous membrane, is more or less present, in all cases, but often, so obscured, as not to be easily recognised. And again the sonorous, sibilant, and mucous ronchus of Bronchitis, may be so loud and general, as to disguise the pathognomonic crepitation of Pneumonia. The Pleurisy is at first dry, and merely produces slight pain, and a feeble sound of respiration. When thus slight the affection is simply called Pneumonia; when severe, and attended with large effusion it is recognised as Pleuro-pneumonia. The signs of one, or the other predominate, according to the relative

stages of each disease. The Pneumonia is apt to decline sooner than the Pleurisy, which may remain some time after the inflammation of the parenchyma has ceased. Whenever the inflammation extends from the lung to the pleura, before the substance of the lung is much involved, the serous secretion is generally abundant; but when the parenchyma is extensively engaged and is followed late by pleurisies, the effusions are commonly to a small amount. When the parenchyma and investing membrane, are simultaneously attacked, and nearly in an equal degree, the effusion of the pleura by its pressure, modifies the effect of the inflammation in the lung. The lung is found after death consolidated, but tougher and redder than in the state of ordinary hepatisation, and totally destitute of the granular aspect. It resembles much the substance of muscle. Laennec has termed this condition carnification. It seems to exhibit the more essential part of inflammation: the effusion into the coats of the air cells which constitutes granulation, having been prevented by the pressure of the external effusion.

Dilated Bronchi From extensive observations it would seem, that dilitation of the bronchi is much

more frequent in the pneumonia of infancy, than of adult, or advanced age. M. Grisolle attributes the dilitation much less to the parenchymatous inflammation, than to the capillary bronchitis, which in infancy, pre=cedes, or complicates the major part of pulmonary phelegmesia. He explains the dilitation by the excentric pressure on the tubes, resulting from the abundance of secreted fluids. Dr Williams thinks that he has successfully traced the production of dilated bron=chi, to the influence of pleuro-pneumonia in its chro=nic form. He supposes, that in consequence of the slowness of the absorption of the pleuritic effusions which are compressing the lung, false membranes are thrown out on the pleura, which become finally organized and bind down the lung. The lymph effu=sed in the tissue itself, scanty though it be in comparison with that of a hepatized lung, may become the means of adhesion of the sides of the compressed cells and finer tubes, and of consequent obliteration of more, or less, of the proper tissue of the lung. When the liquid effusion is at last removed by absorption, and when the chest becomes again capable of expansion, he asks what will supply the place of the obliterated

cells. There will be the atmospheric pressure at each inspiration brought to act on the obstructed tubes: the air can no longer penetrate the cells. so it must dilate the tubes, and make their increased size compensate for their defective terminations.

Cardiac concretions. In one fifth of the subjects dying of Pneumonia examined by M. Grisolle, he found enterwo=ed among the columna carnea of the heart, concretions, of a perfectly dense, yellow elastic substance. He supposes that they are formed in the same way as the plastic exudations on the pleura.

Dr. Graves has observed the occurrence of a bellows murmur in the heart during Pneumonia, and the throbbing of a large part of the chest synchronous with the heart, pending the earlier stage of the disease. The bellows sound was distinct not merely in the region of the heart, but over the front part of the chest. It did not exist in the subclavian, or carotid arteries, and continued without any abatement for several days, subsiding with the inflammation. May not the deposition observed by M. Grisolle be the cause of the murmur?

Gastric complications. Inflammation of the stomach

and bowels, of the oesophagus, and pharynx, have all been observed in Pneumonia: but these complications are not more common in this, than in other inflammatory diseases.

Pulsation of the Chest. Is not often observed: and only 2 cases fell under the observation of Dr. Gibbs. It occurred in the supra, and infra clavicular regions.

Fever. — The frequency of this complication varies at different seasons, and is much more common in our Southern, than in the Northern States.

Phthisis. It has been laid down as a principle, that if crepitant ronchus be heard at the summit of the chest exclusively in front, and febrile action be present, the Pneumonia thus indicated, is probably tuberculous. This principle is based on the fact that idiopathic inflammation of the superior lobe, attacks the posterior, much earlier than the anterior half of the organ: that consequently the physical signs of the disease are almost invariably first perceptible posteriorly; and when the inflammation reaches the front of the lung they continue to be more marked at its posterior aspect. Dr. Gibbs thinks, that this assertion would be more tenable, if it simply affirmed, that crepitant ronchus, audible at

the anterior or posterior part of the summit of the lung, limited to a small space, and continuing for a long while unchanged in degree, might lead to the suspicion of the existence of tubercles: inasmuch as idiopathic pneumonia, affects a different mode of progress, and developement.

Age. The disease is observed to occur more frequently between the years of 20, and 30, which may be account=ed for very rationally, upon the ground that there are a greater number living at that age.

Sex. This seems to have no influence upon the dis=ease. It is true that men are more liable to Pneu=monia than women, but for the obvious reason that they are more exposed from the nature of their employment.

General circulation. The disease generally makes its appearance in the following manner. The patient is first seized with a chill: this lasts half an hour, or more, and sometimes 2, or 3 hours, and when it goes off, is succeeded by a fever which continues sometimes during the whole 24 hours, usually increases at night, and is rarely attended with extreme heat of skin. With regard however to the chill, it would seem by the observations of M. Grisolle, that it was present in only 49 cases of

of 205, so that the preceding assertion will hardly be correct. The pulse is full, hard, and developped at the commencement of the disease: in the latter stages it is frequently feeble. It is generally from 100 to 120 per minute, and rarely becomes more frequent, except in the terminating stage of the disease. It is in most cases a good measure of the intensity of the inflammation, and a correct indication of the propriety of blood-letting: but the pulse is sometimes contracted and at the same time the inflammation is violent: if bleeding be practised, it rises and becomes softer. — A sign which may be called general, although confined to very narrow limits, is the appearance of the face: for this depends upon the capillary circulation. In acute cases, we meet with a circumscribed flush, of a circular form, and which is sometimes confined to one cheek, sometimes found in both. When one cheek only is affected in this manner, it is more frequently, though not universally, that which corresponds with the diseased lung. In some cases the whole face is flushed, the colour varying from a light, to a deep red, sometimes amounting to a bluish tinge. The whole countenance is generally changed. These various tints depend

upon the greater, or less, obstruction of the circulation of the blood through the heart, and lungs. They are darker when the difficulty of the circulation is greater, and often become bluish about the lips and nostrils while the rest of the face is pale, when a coagulum has formed in the heart. — The great loss of strength is much more remarkable in this disease than in Pleurisy. Thus a patient with pleuritis will continue to walk about, until the effusion causes so much dyspnœa, that he is compelled to keep his bed. Whereas a slight Pneumonia, with scarcely any local signs, will enfeeble the patient so much that he will be unable to sit up.

Symptomatology. The pain is variable, and is proportionate to the inflammation of the pleura. When the inflammation is seated near the surface of the lung, the pleura is necessarily much involved, and the pain is consequently acute; but when it is deep-seated, there is generally speaking little pain.

Dr. Biddle found that in 301 cases, only 29 complained pain in the side, and the diagnostic value of the symptom is strengthened by the fact, that it appears in 101, out of 163, during the first 12 hours, 17 of the remaining 21 subjects felt it before the end of the first day, the 4 others from the second to the 4th day. The seat of the pain corresponded precisely in

one fifth of the cases with the inflammation of the pulmonary substance. In no case did the inflammation and pain occupy different sides of the chest, though they might be quite remote from each other.

Dyspnoea. The frequency of the respiration is increased in Pneumonia, and the degree of increase is a tolerable exact indication of the extent of the affection. This frequency arises from the diseased lung being rendered unfit for the performance of its functions, so that a smaller portion of the blood is exposed at once to the action of the air, and a smaller quantity of air is inhaled during an inspiration. Extreme acceleration of the respiration is not a fatal symptom, as of 2 subjects, in whom the respiration was from 70 to 80 a minute, one recovered. — There seems to be no direct relation between the amount of pain and the dyspnoea, as in the comparison of 16 patients with violent pain, with an equal number with no pain, the respiration was observed to be nearly equal. The assertion of several distinguished French Physicians, amongst whom may be mentioned M.M. Bouillaud, Andral & Lechambre ~~and others~~, that pneumonia of the upper, rather than of the lower lobes, was especially productive of dyspnoea, seems to be contradicted by the observations of 44 cases - by

M. Risolle. The location seems to have no effect. When only one lung is slightly affected the frequency of the respiration is not much increased. If the disease embraces the whole of one lobe of the lung it is increased to 40 or 50 per minute, and when both lungs are involved the respiration will be as frequent as 50, or 60 in the minute. The mode of performing the respiration differs from that observed in the healthy state. The patient breathes irregularly: the respiration is usually high and is performed chiefly by the side of the chest. At first it is not strictly abdominal. But after the pneumonia has continued for a time, this character is developed, and the ribs remain nearly motionless.

<u>Cough</u>. The cough is usually at first the ordinary cough of acute bronchitis, which is either a hoarse, or a loose mucous cough. In this case the bronchitis is the predominant affection. As soon however as the parenchyma becomes seriously affected, the cough changes its character, assuming the form which is called pneumonic. The pneumonic cough is short and suppressed, which results partly from the pain felt during the act of coughing, and partly from the impossibility of inflating the lungs completely. The cough is sometimes pneumonic from the first. In some cases of

pneumonia the cough is wanting throughout the whole course of the disease. This is apt to occur in the aged, and where the pneumonia succeeds another affection.
Expectoration. The rusty sputum is that which is most frequently observed in the first stages of the disease, though you may have the prune juice, or the sanguinolent appearing, without being preceded by the rusty sputum. It generally makes its appearance on the 1st or 2nd days though it may not be develloped until the 11th or 12th. The expectoration at the commencement consists of mucous, such as is observed in ordinary bronchitis, only that it is tinged with blood. It becomes viscid and transparent as the disease is develloped, and will adhere to the vessel containing it, although the latter be inverted, bottom upwards. It is small in quantity from 2 to 4 ounces in 24 hours. Its becoming more abundant, is a sign that the disease is retrograding. In some cases observed by M. Gisolle during the prevalence of an influenza, the expectoration was perfectly white, opaque, and catarrhal, showing that ~~an~~ epidemic constitution has some influence in producing this anomalous species of expectoration.
Delirium. The brain was affected in from one eighth:

to one eleventh of the cases observed by M. Grisolle and is to be considered as an unfavorable augury. It occured more especially when both lungs were affected. We must be careful when the cerebral symptoms are severe not to be led into an error of diagnosis, as the primary affection may be often masked by it.

<u>Stages</u> As regards the stages of the disease M. Grisolle follows Laennec in his division. The first <u>Engorgement</u>, the second <u>Hepatisation</u>, and the third <u>Purulent infiltration</u>. He admits the correctness of Dr Stokes's observation, that his first stage, (that is engorgement) may be preceded by a state of <u>irritation</u>, marked by <u>puerile respiration</u>, in which the pulmonary tissue is drier than natural, but is not willing to class it among the necessary stages of the disease. Dr Stokes affirms that he has repeatedly seen this condition of the lung, which he calls the first stage, in which the pulmonary tissue was drier than natural, not at all engorged, and of a bright vermilion colour from intense arterial injection. If we admit that the crepitant ronchus (which is the earliest physical sign) is caused by the passage of air through a fluid secreted by the irritated cells, is it not fair to conclude, and does not every analogy favor the conclusion, that this

stage of secretion was preceded by inflammation, or at least irritation. The cause of this crepitation has been a matter of dispute among authors, and has not as yet, I believe, been satisfactorily settled. Some conceive it to proceed from from the structure of the lung exterior to the bronchi and vesicles, and to result from the teasing of parts asunder, that have been united by effused lymph. Others, among whom are Andral and Latham, believe that the sound is the same in kind, with those which the latter writer has described by the generic term Crepitation. Of these it is the smallest in degree, and probably proceeds from the same continuous surface, from the extreme vesicles and air-cells of the lungs; and is probably formed in the same manner by the mingling of air with the morbid secretion which it finds there. Dr. Williams thinks, that the crepitant rattle is caused by the passage of air through viscid mucus in the ~~[illegible]~~ smaller tubes, which are pressed upon, and contracted, by the enlarged vessels which are distributed between and around them. He maintains that if it were a liquid secretion, the structure and motion of the lungs would tend to bring it into the larger tubes, causing bubbling rattle, or sub-crepitant rale, and that having

reached these larger bronchi, it would be in the reach of succussion, and finally expectorated. Now it is known that in the earlier stages of pneumonia, the sub-crepitant rale, or the bubbling sound is scarcely ever present, and that the expectoration is of a thick viscid character.

With regard to the physical signs of the first stage rude, or harsh respiration, crepitant ronchus, with percussion clear, or nearly so, may be regarded as the most prominent. The lung in this condition is infiltrated with a liquid which produces a sort of rustling respiration not unfrequently rude. That is, the natural softness, fulness, and smoothness of the vesicular murmur, is wanting. The physical sign which is pathognomonic of this stage is the crepitant ronchus. It is truly pathognomonic where it does exist, but it is not present in all cases; for when the inflammation is seated near the centre of the lung, the engorged vesicles cannot dilate, and consequently the ronchus produced by the expansion of the vesicles, cannot be heard. Besides, healthy tissue may exist between the parietes of the chest and the diseased portion, which by its healthy vesicular expansion, may prevent the crepitus from being heard. The precise characteristic crepitation did not occur

in 34 cases observed by M. Grisolle, but resembled more or less, the sub-crepitation of capillary bronchitis. The sputa in these cases left no doubt as to existence of pneumonia. The crepitant rattle was entirely absent in 18 cases of pneumonia, during the prevalence of an epidemic influenza.

If the lung is examined in the first stage, the vessels will be found much distended, and the whole tissue appears red, and of different shades. This redness may be distinguished from the engorgement produced after death, by the colour being of a brighter red, and its not being confined to the most dependent portion of the vis-cus. In cutting into the lung, there exudes from it a frothy serum: caused doubtless by the coagulation of the blood after death, as it is not observed when the blood remains in a fluid state. The common notion that the blood of an inflamed lung is effused into the air-cells, is now generally exploded. It is contained in the distended vessels and in the cellular tissue. Andral examined an inflamed lung after drying and slicing it, and the only difference that he could perceive in the structure, was that the coats of the cells were somewhat thicker and red=

=der than natural. There was not that obliteration of the cells that might have been expected, if they had been filled with blood.

Hepatization. The physical signs of this stage (which is the second of Laennec) are Bronchial respiration, Bronchophony, Crepitant ronchus around the hepa=-tized part, Percussion flat, or very dull.

Bronchial Respiration is more marked in this stage of Pneumonia than in any other affection of the lungs, as the tissue is perfectly consolidated, without any obli=-ration of the tubes. It is that variety of bronchial respiration which on account of its loudness, has been denominated tubal. It is more distinct at the root of the lung where the tubes are of the greatest calibre. If the patient breathes rapidly, the crepitant ronchus is also heard in many cases co-existing with the bronchial respiration: this arises from a portion of the lung remaining in the first stage of inflammation. If you cannot detect it in inspiration you must make the patient cough, by which the air is driven so suddenly into the smaller tubes during the following inspiration, that the crepitation is made apparent.

Bronchophony. Always co-exists with the bronchial respiration. When the consolidation of the lung is complete, and involves especially the central parts of the lung, the voice may be heard to resound over a space of considerable extent, in the mammary, scapular, or axillary region, and so loudly that it appears to issue from the part. Like the voice of pectoriloquy, with which it is sometimes confounded.

Fremitus. M. Grisolle thinks this sign of not much value, as of 10 subjects examined in the second stage, eight presented complete absence of thoracic vibration on both sides of the chest, and if it existed at all, it was equally as well marked on the healthy, as on the diseased side. Dr. Williams' mode of distinguishing a hepatized lung by the vocal vibration, or fremitus, from a pleuritic effusion, will scarcely hold good if M. Grisolle's observations are correct.

In a case in which the hepatization of the left lung was complete, and involved especially the root of lung, there existed at each pulsation of the heart a distinct bellows murmer. This was no doubt owing to a partial pressure produced by the solid deposition upon the pulmonary artery, or some of-

sual form. — In a majority of cases the passage from the first to the second stage is rather sudden, and the exchange of crepitation, for bronchial respiration, proportionally rapid.

Third stage, or Purulent infiltration. The signs of the third stage are not so characteristic of the disease, but if you have followed it through the previous stages, you cannot be at fault, nor can you if the signs of the first and second, or of the three stages be present at the same time. But if you see the patient for the first time, in the third stage, you may, by relying on the general symptoms, mistake the disease for an affection of the brain, which it sometimes much resembles. The physical signs of this stage, are, Bronchial respiration in the large tubes, feeble, or absent elsewhere: Mucous and sub-crepitant rhonchus: Broncophony imperfect. Percussion flat. The signs are first those connected with percussion, which is perfectly flat, as the lung remains solid, and very little air is contained in the tubes. The results given by auscultation are obscure, as the current of air has by this time been diverted from the diseased lung: just as the blood is diverted

from a gangrenous limb; and therefore little, or no sound is heard. The respiration when heard is feeble bronchial: a mucous ronchus is also present. We have then, as signs of the third stage, flatness on percussion, feeble bronchial respiration, and mucous ronchus. The resonance of the voice is proportional to the ~~signs~~ respiration, and is of course feeble. These signs are all very obscure, and therefore you must expect to be foiled when called to a patient in this stage of the disease. There may still be heard in very strong inspirations, a decident crepitous rhonchus; but this is rather owing to a portion of the lung which remains stile in the first, or second stage, and admits the air in very strong inspirations

In this stage the lung remains indurated and assumes a yellowish colour. It contains a considerable quantity of pus, diffused through the cellular tissue, and deposited in the vesicles. The tissue loses its granular appearance and becomes more smooth, and polished: the vesicular structure having been ~~[illegible]~~ completely obliterated. It yields readily to pressure, and breaks under the finger, affording a puriform liquid, which at first consists of a mixture of pus and blood

globules, floating in serum, and afterwards of pure pus. By placing the diseased lung under a stream of water the parenchyma may be completely removed, so as to leave nothing but the bronchial tubes. The bronchial mucous membrane is not so red in this, as in the second stage, and the tubes contain purulent liquid.

Some authors admit a fourth stage which is that of abscess. The clinical signs are those of the formation of a cavity. At first a mucous rhonchus, becoming more loose and large, ~~and long~~, until at last a well developed gurgling is heard, produced by the passage of air through the pus contained in the cavity. Percussion flat. The formation of abscess is less unfavorable, because it implies less extent of suppuration and a power in the structures to circumscribe it. If the patient has strength enough to go through the first three stages of the disease, he will generally survive the fourth, though he may require the aid of artificial stimulants.

With regard to the duration of the disease, it would seem to depend much upon the early, or tardy administration of medical aid. From a table by Dr. Grisolle the mortality among the patients admitted on the first 8 days, amounted only to 1/13, every days delay adding to the gravity of

of the disease. Of those admitted on the 8th day one half died.

Termination. When the disease terminates by recovery it gradually retraces its steps until it returns to a healthy state. The signs connected with this return to health are called the signs of return, or of recovery; their regularity depends upon the stage that the disease had previously reached. If the disease advance no further than the second stage it will regularly return to the first. When first the crepitant ronchus of return is heard, it is looser, or more moist than the true crepitant; this gradually subsides, and the vesicular respiration re-appears, but remains for a long time much more feeble than it was previously to the attack. The bronchial respiration, and dull percussion, do not suddenly cease, but remain in some degree for a considerable time after the cessation of most of the symptoms of the disease. This depends upon the consolidation of the lung, and the difficulty with which the tissue returns to its vesicular expansive condition — When however the disease has reached the third stage, this series of changes does not occur. The mucous ronchus is the first sign observed, as

a large quantity of fluid is poured into the tubes. The crepitant rhonchus of return is not heard, as no air passes through the small tubes. This fluid which is ~~poured~~ produced in the bronchi, consists of mucous and purulent matter, resulting from the breaking down of the diseased tissues, and the secretion from the tubes passing through the inflamed mass, which contributes very much to the relief of the disease. This secretion gradually assumes more and more of the mucous character, until it becomes perfectly natural.

Treatment. The treatment of pneumonia is that of ordinary inflammation, modified by the peculiarities of the organ affected. Hence bleeding is the most efficient remedy, and should be practised freely in the beginning of the disorder. For the purpose of testing the efficacy of bloodletting, compared with the expectant treatment, which consists simply of repose, rigid abstinence, demulcent drinks, and in some cases a gentle purgative, M. Grisolle instituted a comparison of 11 cases in which the inflammation was of very limited extent and attended with mild general reaction, with 13 other cases, 4 only of which had not already reached the stage of hepatization. The general symptoms of all

were mild, and the patients still young. They were admitted on an average, on the fourth day of the disease. In 11 cases of mild pneumonia not treated by bleeding, the characteristic sputa continued till the 9th day.
In 13 cases where bleeding was performed on an average on the 4th day the pneumonic sputa ceased about the end of the 6th day: that is about 48 hours after venesection. The pain in the side of those not bled, although diminished at the end of 4 or 5 days, never disappeared before the 8th, and frequently continued to the 20th, and 27th day. Its mean duration was 15 days.
In those bled pain in the side invariably relieved by ~~bleeding~~ whether this was local, or general: disappeared completely on from the 2nd to the 12th day, and on an average on the 8th day.
Febrile reaction ceased about the 10th day in those not bled: convalescence commenced the 11th or 12th day.
In those ~~not~~ bled it ceased abruptly at the end of the 7th day: then commenced convalescence, which was thoroughly established 24 hours after.
The auscultatory phenomena in those not bled commenced to decrease at the end of the 2d week, that is 4 or 5 days after the cessation of fever, but continued

to be more, or less manifest, till from the 22nd to the 30th day, that is the lung was still more, or less impermeable. In those bleed the auscultatory phenomena began to decrease with the cessation of the fever, that is the 7th day: and in the subjects carefully examined till their departure from the hospital, the lung had completely recovered its permeability, on an average on the 12th day. An enumeration, or rather examination of these cases would seem to demonstrate the utility of the practice of bleeding, even in the slightest case marked, by the pathognomonic rhonchus, or sputa.

In the commencement of the disease a very large bleeding, pushed to the verge of syncope, is certainly best in a plethoric constitution, or in moderately strong person previously in good health, if the pneumonia is of a highly inflammatory kind – that is if the evidence of vascular excitement be decided: for it is in these cases that the inflammation tends necessarily to diffuse itself as it were over a large surface, and to attack several organs, especially the serous tissues of the circulatory system. A large bleeding is of course the surest means of checking this tendency, and is the most comforting remedy for the patient, as it at once diminishes the

headache, and the oppression, which are among the most disagreeable symptoms. A general bleeding produces much more effect than a local one, which is almost negatory in its action upon the highly inflammatory cases of pneumonia, although very powerful in the later stages, or in the slighter forms of the disease. The venesection may be repeated on several successive days, or in the after-part of the days in which the first bleeding was practised, if it seem necessary from the excitement of the pulse, and the vascular action. That is if the pulse should rise again, and especially if it should become more developed after the first bleeding. The appearance of the blood drawn is of course highly inflammatory - that is much buffed with a very firm coagulum: this is a tolerably correct, but not a sure guide for the repetition of venesection.

It has been said that venesection is dangerous at the two extremes of life: in early infancy, and in extreme old age: that at these periods, a collapse from which recovery should be impossible is to be dreaded as the natural consequence of loss of blood. Experience has proved that not only may bleeding be performed upon both classes of subjects without risk, but with manifest advantages

On the other hand, a constitution deteriorated by misery, by bad nourishment, by grief, excess or previous disease at whatever age it exist, furnishes a formal contradiction to bleeding.

Dr. Gibbe labours to remove the popular prejudice respecting the danger of bloodletting in women upon the point of or actually menstruating. He thinks that the catamenia, no matter in what manner it be advancing, constitutes no obstacle to bloodletting, provided the existing symptoms proclaim its utility. That bleeding never suppressed either catamenia, or lochia, when practised for the relief of inflammation; and that pregnancy furnished no obstacle.

Experience has proved that no stage of pneumonia is too advanced for bleeding, provided the indication for loss of blood be thoroughly established. He must be careful where the suppuration stage has set in, that the indication for venesection is well marked, or he may bleed our patient into a stage of collapse from which he may not recover.

Next in importance to general bloodletting as a remedy in pneumonia, is the tartrate of Antimony: this medicine may be given in several ways, either as a simple

diaphoretic, expectorant, or as a direct arterial sedative. In the former case it should be given in doses from a twelfth, to a quarter of a grain every 2 hours; in general a sixth of a grain is borne at first, and afterwards the patient should take a quarter of a grain either alone, or combined with nitre or calomel. The medicine is in these doses quite free from danger, except in a very few individuals of extremely irritable temperament: for there are some patients, who cannot bear antimony in any dose, or in any form. In most cases however the small doses of a sixth of a grain, are attended with a disposition to sweating and a diminution in the excitement of the circulation. Of late years the contra-stimulant, or Italian method of giving antimony in very large doses, has been much resorted to in the treatment of pneumonia. This method has been perfected in France. M. Grisolle gives antimony in doses of 6 grs to 12 grs a day. The formula of the French hospitals is Tart. antimon. gr vi. aq Menthæ ℥vj, Gum Acac ℥ij, M. Of this a tablespoonful is given every 2 hours. It is not always customary to add gum arabic

but the irritation of the stomach is certainly lessened by it. The antimony taken in this way rarely produces any other effect than purging, which does not invariably follow. If the purging is severe, it is readily checked by adding a few drops of laudanum to each dose. The medicine should be continued in this dose for 24 hours and not increased until next day, when 8 grs may be given instead of 6 grs: either in the same, or in a larger quantity of vehicle: it is better to avoid giving it in too concentrated a form. If the tolerance has been established the first day, — that is, if the remedy has not produced decided puking, or purging, or very debilitating sweats, it may be safely taken during the second day: and if the disease does not abate the dose for the third day should be the same, or it may be increased one or two grains. But after the third day, there is some danger in continuing the antimony in a high dose, unless the patient is perfectly conscious, and his brain entirely clear: if the remedy is then attended by no uncomfortable sensations there is little danger in its administration. But

if the patient is comatose, or even slightly stupid. Very extensive inflammation, and other structural lesions may follow the tartarized Antimony without any symptoms to indicate them. As the patient convalesces, the dose may be gradually decreased. The mode of action of the Antimony seems to be a disputed point. Williams does not believe that it subdues inflammation merely by its nauseating, emetic, purgative, or diaphoretic effects: for although these modes of operation are occasionally induced by it, yet it is often quite as successful without being attended by any of them. It appears to be directly antiphlogistic, and we can only conjecture that it is so by a specific action on the inflamed vessels. He does not suppose that its operation is merely that of a strong counter-irritant, inflaming and causing pustulation of the gastric mucous membrane, as the Broussaisans maintain: for in the wards of Gannec, he has seen patients taking as much as 30, or 40 grs of the Tart. Antim. daily without causing sickness, redness of the tongue, pain, or diarrhoea, and without even destroying their appetite for food or power of digestion.

The remedy which is next in power to antimony is mercury, although its effects are somewhat different. When given in the period of hepatization it acts in two ways – as a directly antiphlogistic remedy, and as possessing a peculiar power in preventing the formation of lymph – in other words it is antiplastic. Hence, when given after bleeding, it is directly opposed to the progress of inflammation, and modifies the products which result from it. Mercury should be given in such doses, as to produce a full impression upon the system but amounting to ptyalism, but producing a slight action upon the gums. The calomel is often combined with ipecacuanha or opium: but the latter remedy should be given with great reserve in acute inflammatory pneumonia. The mercurial impression is generally followed by a rapid decline of both general and local symptoms.

The expectorants which are of most value when the antiphlogistic treatment has failed are the eupatorium and senega or sanguinaria. These may be given in the form of infusion – half an ounce of eupatorium, and two drachms of senega

in a pint of boiling water - of which from a table-spoonful to a wine-glassful, according to the susceptibility of the patient, should be taken every 2, or 3 hours: or the Senega and Sanguinaria, or half may be combined in the dose of two or three drachms of Senega, and one of Sanguinaria, to half a pint of boiling water, and a table-spoonful given every two hours, unless it should excite much nausea. Blisters, or tartar emetic ointment are not necessary as a general rule in acute pneumonia: for the disease belongs to those inflammatory disorders, for the earlier stages of which blisters are not adapted. It seems from the result of the analysis of 38 cases (12 fatal, 26 cases of recovery) in which blisters were applied to the chest, that the symptoms were rarely mitigated immediately after their action, and that in the few instances in which such change occurred, it was by no means certainly ascribable thereto. It was a matter of demonstration, that blistering did not lessen the duration of the disease. M. Gerisolle, however, believes, that his number of cases is insufficient to prove absolutely the powerlessness and perfect inutility

of blisters. Some practitioners believe that the benefit from them, is scarcely to be equalled by that from any other remedy in the treatment of the third stage of pneumonia. The blisters then act with great power in checking the inflammation at the same time preventing the collapse, which is so frequent at this stage of the disease.
Tartar emetic ointment applied so as to produce a very copious pustulation has been recommended under similar circumstances. Sinapisms, or other rubefacients are often useful within certain limits, — that is as stimulants to the general strength, and as remedies which have a powerful influence upon the dyspnœa which attends the disorder.

1843

An Inaugural dissertation
On Iodine.
Submitted to the Examination
Of the
Provost. Regents and Faculty of Physic.
Of the
University of Maryland —
by. William W. Duvall. of Maryland
A candidate for the degree
Of
Doctor of Medicine —

To Samuel Chew. M.D.
Professor of Materia Medica Therapeutics and Hygiene,
in the University of Maryland.
I inscribe these pages.
as an humble testimony of my regards.
Wm. W. Duncan

Among the many valuable medicinal agents, which the indefatigable prosecutors of chemical analysis, have, by their scientific research, bestowed upon the healing art. There is perhaps no discovery for which the practitioner feels himself more indebted to modern chemistry, than that of Iodine. It is truly a subject of wonder that the numerous processes to which the substances containing Iodine, had been subjected did not, at an earlier date, reveal its existence as a distinct substance; Not until the year 1812 was it detected, by M. Cortois a French Chemist. And Bernard and his coadjutors assert their claim to the successful method of procuring it. After the manufacture of the Alkali. Potasa and Soda, and their salts, the residual ley, was noticed to possess considerable causticity, and upon the addition to it, of a quantity of Sulphuric acid, for the purpose of ascertaining the cause of this corrosive quality, there took place the precipitation of a dark coloured matter, which being subjected to the influence of heat, evolved a vapour, of a violet hue, from which

prominent characteristic the substance received the name, Iodine, from the Greek ἰώδης, violacious. It was not long before all its properties were fully and accurately investigated by Sir H. Davy and G. Lussac, who presented to the scientific world a complete exposition of its chemical history; showed its close analogy to chlorine, indicated its elementary nature, and ascertained its existence in a variety of animal and vegitable substances, such as the oyster, sponge and other Polypi - sea weeds &c. And more recent investigations by American Physicians have proved its existence in the water of some of the mineral Springs of the United States - Preparation. The most expeditious mode of preparing Iodine, is from the ashes of sea weeds - or which is preferable Kelp or Barilla, which is an impure Alkali, remaining after the preparation of soda. The process is as follows: Having made an aqueous solution of the soluble part of sea weeds or kelp, concentrate it by evaporation, until chrystals of carbonate of soda appear; pour off the remaining liquor into a clean vessel, and add to it an excess of Sulphuric acid; then let it be boiled, and strained through a cloth, put into a retort, and as much per-

oxide of Manganese be added by weight, as there was Sulphuric acid, attach to the beak of the retort a glass tube closed at its distal end, and apply the heat of a lamp. The Iodine will be disengaged, and will rise in the form of a violet coloured vapour, then become condensed on the surface of the tube, loses its peculiar hue, and presents the form of brilliant lamina, having somewhat a metallic lustre, and resembling in appearance the Carburet of Iron or black lead. The chemical changes which take place during the process are these; the Iodine exists in combination with potassium, which receives oxygen from the peroxide of Manganese, and unites with the Sulphuric acid forming Sulphate of Potassa, leaving the Iodine in a free state, to be vaporized by heat. The oxide of Manganese might be dispensed with in conducting the process. In which case the Potassium would be oxydized by the water of the diluted Sulphuric acid. But the use of the oxide of Manganese is preferable, as the Iodine prepared without it, is apt to be contaminated by an excess of acid, requiring to be further purified by lixiviation, and distillation with Potassa in solution. Sensible properties. Iodine thus obtained is

a soft, opaque, friable solid, in the form of crystalline scales, with a bluish gray colour and brilliant metallic lustre, also possessing a pungent odour and a hot, acrid taste. It corrodes the corks of vials in which it is kept, and escapes, and when applied to the skin it imparts to the cuticle an evanescent yellow stain.

Chemical properties. In its chemical properties Iodine strongly resembles Chlorine. It destroys vegetable colours, is a non conductor of Electricity and a negative electric. It evaporates at common temperatures, is very sparingly soluble in water, requiring seven thousand times its weight of that fluid for its solution. Its solubility in water is much increased by the addition of the Iodide of Potassium. Alcohol and Ether dissolve it with much greater facility than water, the solution in the former being of a red, and in the latter of a brown colour. So far as is known Iodine is a simple substance, chemists not having been as yet able to effect its further decomposition, by the most rigid analytical measures. Iodine possesses a wide range of affinity, having a strong attraction for the pure metals, and the simple non metallic substances, such as Phosphorus Sulphur &c. producing compounds called Iodides. With Oxygen, Hydrogen

and chlorine. It forms, Iodious, Iodic, Hydriodic and chlori-odic acids, among which the Hydriodic, is the only one of much useful importance, The Specific gravity of Iodine is rather more than 4. it being fourtimes as heavy as water; Its fusing point is 225. and it boils at 347°. F. It often contains a large proportion of water rendering it of variable activity, and frequently adulterated with the black Oxide of Manganese, and carbonaceous substances, These impurities can be easily detected by the aid of heat. Hydriodic acid can be procured by the action of water on Iodide of Phosphorus. If water be added to the Iodide of Phosphorus, and heat applied, the oxygen of the water will unite with the phosphorus, and the Hydrogen with the Iodine forming Hydriodic acid, in a gaseous state - This acid is without colour, sour to the taste, reddens the vegitable blues, and has an odour resembling that of Muriatic acid gas. The discovery of this union of Iodine with Hydrogen, was a means of subverting the chemical doctrine; that Oxygen was the only acidifying principle, the result, of the above process, clearly showing that a compound possessing all the properties of an acid can be formed without the aid of oxygen. Another instance of a similar nature, is that of the union of Hydrogen

with Chlorine, forming muriatic acid. But from the comparative few instances to the contrary, it appears that there are only exceptions to a generally prevailing rule namely, that oxygen is the agent by which most of the acids are formed. Hydriodic acid, is speedily decomposed by several substances having an attraction for its elementary ingredients, Oxygen gas when mixed with it causes a libration of the Iodine, by uniting with the hydrogen and forming water. Chlorine also decomposes it by forming with the Hydrogen, Muriatic acid. These facts afford a test for the presence of the acid, whether free or in combination. This acid forms when combined with Potassa, the Hydriodate of Potassa, a salt, possessing the medicinal properties of Iodine in an eminent degree, This salt according to strict chemical theory, exists only in a state of aqueous solution, for when reduced by evaporation, to a solid state, it becomes converted into an Iodide of Potassium, the Hydrogen of the Hydriodic acid uniting with the oxygen of the Potassa and passes off in the form of Aqueous vapour, thus leaving the Iodine in combination with Potassium. The Hydriodate of Potassa being the only compound of much medicinal importance, resulting from the union of the Hydriodic acid with the bases. I shall describe the mode

of preparing it, to the exclusion of the other compounds, they being of but little practical utility to the Physician. In preparing the Hyoriodate of Potassa for medicinal use, the preliminary labour of generating the acid may be dispensed with, and the salt in solution may be formed by the following process. To a solution of pure caustic Alkali in hot water, add as much Iodine as it is capable of dissolving, the solution will be of a reddish brown colour, consisting of the Iodate and Hydriodate of Potash, with an excess of free Iodine. Through this solution let a current of Sulphuretted Hydrogen gas be transmitted, until the free Iodine and Iodic acid become converted into Hydriodic acid, changes which may be known to have taken place by the alteration in the colour of the liquid, which will gradually lose its brown colour, and become transparent. This colourless solution must then be heated to expel the remaining Sulphuretted Hydrogen, and after being gradually filtered, will contain pure Hydriodate of Potash, in aqueous solution, which by evaporation, can be converted into the Iodide of Potassium, the most important of the Iodic preparations. ~~Toxical~~ properties. If given in excess the action of Iodine on the animal economy, is that of an

irritant poison. It produces violent emesis, with ejection of bile, excessive languor, restlessness, insomnia, tumultuous palpitations, sometimes active cathartic with tenesmus, and cramps in the extremities. In dogs which were poisoned by it, the mucous membrane of the stomach was found inflamed, and containing numerous patches of ulceration. "In Magendie's formulary for 1825, there is recorded a case demonstrating conclusively the alarming symptoms resulting from the incautious administration of Iodine. The symptoms described, indicated the existence of violent gastro-intestinal irritation and inflammation." The patient remaining for ten days with a precarious tenure of her life. The mammæ which had been large, became speedily absorbed, and their region became perfectly flattened. This extreme emaciation was not confined to these glands, but was manifested over her whole system. Even the extremities were reduced to one-third of their natural size. In this deplorable condition the unfortunate individual remained for weeks, before the recuperative efforts of nature aided by medicine and diet, were adequate to effect her gradual restoration to health. She was, as the author expresses it, "a living monument of the effects of Iodine." I know of no instance in which Iodine has been wilfully used, as a poison, with the

view of destroying human life. Chemistry has furnished no direct antidote to it. The treatment indicated in Iodism is the administration of potent anodynes and demulcents, with the use of counter irritants. From the extensive use which has been made of the remedy by judicious practitioners there need be no fear entertained of injurious effects, if proper caution be observed in its administration. Dr Sayre of Paris to whom we are indebted for much valuable information on this subject, says, he has not found any deleterious results from its use, unless the dose be unduly large and too often repeated. The detection of Iodine is easy, a solution of Starch in boiling water, is a delicate test for the presence of Iodine or hydriodic acid, by the intense blue color produced by their admixture. The violet hue of the vapor of Iodine is for most purposes a sufficient test, but the starch is a much more unerring one. It has the property of uniting with starch and of forming with it a compound, insoluble in cold water, which is recognized with certainty by its deep blue colour. This indication according to French experimenters is so delicate that a liquid containing 1.450000 of its weight of Iodine receives a blue tinge upon the addition of a solution of the starch. It is very important that the solution containing the Iodine should be cold

when the Starch is added, as water at the boiling temperature causes a decomposition of the compound and consequently removes the blue colour - If the Iodine be present in the solution, in the form of Hydriodate of Potash, the blue colour can be restored by adding to the Starch a few drops of Sulphuric acid, which will unite the Potash and leave the Iodine free to combine with the Starch -

Having now cursorily described some of the more or properties of the substance under consideration, I shall in the next place notice its more important relations to the science of Medicine - Therapeutical properties. There is a peculiar organization, of some human systems, wherein the elementary tissues, structure, is so disposed, as to originate in them, a susceptibility, or morbid proclivity to a certain diseased action, which medical writers have styled a Scrofulous or Strumous Diathesis, As a corrective of this abnormal disposition, and as a curative agent in those diseases based upon it, Iodine is capable of producing beneficial effects if properly administered. As a medicine, its remedial powers were first noticed by Dr. Coindet of Geneva, in the marked benefit which resulted from its employment in Enlargement of the Thyroid gland - Iodine excites, in some degree all the living actions, but its operation is particularly directed

to the Sympathetic system. The opinion of Dr. Cornait as quoted by Eberle is "that it is one of the most energetic excitants of the Ganglionic system with which we are acquainted." In irritable constitutions Iodine often produces considerable excitement of the heart and arteries - which effects are less apt to occur in subjects whose nervous systems are obtuse. It operates through the medium of the circulating fluids, as it has been detected in the secretions, of those who have taken it, particularly the urine and saliva, the forms of which it often augments. Among its primary effects, is its tendency to excite the digestive organs, and enhance the appetite. It is stated that analogous to Mercury it often excites a profuse discharge from the salivary glands, which effect is oftener produced in male than female, for which especial action, I can devise no satisfactory explanation, and upon the whole am disposed to doubt it, as a general rule. I have carefully watched its operation in numerous instances, and in no one of them did I notice this result. And I think it probable that the increased discharge from the glands of the mouth which may take place during its use is but transient, and is probably caused by the stimulant effects of the medicine upon the nerves contiguous to the salivary ducts, similar to that of the acids and other pungents.

substances, and is not due to any constitutional effect or sexual peculiarity. Prof. R. mots mention the case of a lady, who sought his advice, while labouring in an incipient ague, under the poisonous effects of the iodide, in whom there existed in addition, to those symptoms of violent irritative action, already enumerated under the head of "toxical effects" an anæmic condition, with anasarca, and hemmorhages, from the nose lungs & intestines. In which deplorable condition she remained for some time. Bland, and dry in Enema. to - nutritious diet, with martial salts and vegetable diuretics were resorted to, with temporary benefit only. She finally sunk - So varied, then, are the effects of Iodine, and so numerous the diseases and pathological modifications, in which its remedial agency has been sought, that Therapeutical writers have, as yet, been at a loss, to know, among which of the classes of medicinal agents, to give it an appropriate rank - As an evidence of the excitant influence which Iodine is capable of producing upon the absorbents, when its administration is protracted, with a cautious increase in the dose, is, that the signs of the mercurial impression have been reproduced under its use, long after all the symptoms of Mercurialization had ceased to manifest themselves - Dr. Machale of Talbot Co. Md. has reported a case in the.

N. A. Archives Vol 1 No 4. of a Lady who labored under enormous enlargement of the Spleen, the sequel of repeated attacks of Bilious remittent fevers for which she had taken a large quantity of Mercury. Two months previous to the Drs first visit to her, she had been subjected to a salivation for the cure of the indurated and enlarged Spleen. The ptyalism had ceased, without the slightest diminution in the size and hardness of the diseased organ. The Tincture of Iodine was prescribed in doses of eight drops thrice daily, which cause in a few days a recurrence of all the annoying symptoms which had harrassed the patient, from the use of Mercury. A suspension of the Tincture was attended with an entire cessation of the Mercurial symptoms, but upon its resumption they immediately returned though in a less eminent degree. The Author in his reflections upon these effects of the remedy attributed their appearance, to the ~~effection~~ of the Iodine in increasing the activity of the absorbent vessels, after they had become torpid from the abuse of Mercury. which having remained in a quiescent state in the system during this period of their inactivity, was again absorbed, and its operation upon the economy manifested. The wonted vigor of these vessels having been restored by the Iodine. Numerous practitioners attest the value of Iodine and its preparations in

a multiplicity of diseases, and although my own experience and observation with regard to its utility, are too inconsiderable to justify me in asserting a direct denial of its efficacy. Yet I think I may be indulged in the belief that in some of the diseases in which, as a remedy its virtues have been applauded, it is entirely destitute of remedial power - and in others, its curative influence has been very much overrated. In Scrophula especially, and in certain stages of diseases which owe their continuance to the presence of the strumous vice in the constitution which they attack, Iodine is deserving of high commendation as a remedy - In enlargements of the mammary glands, and Scirrhus uteri, I have used the article in the former with complete success and in the latter with decided amendment of the uterine disease - though the patient died from the depression of pulmonary involution. In Ovarian dropsy according to Dr Eberle, great advantage has been derived from friction with the Ungt. Iod. over the tumor, In other forms of the disease it is likewise recommended. But in most varieties of Hydropic effusion I should doubt the propriety of its indiscriminate use - In Ascites depending upon enlarged liver or spleen, accompanied with a habit favouring tubercular degeneration of the organs

Iodine, would I have no doubt prove beneficial. But in that variety of effusion, which is the result of inflammatory action of the vessels of the serous membranes, I should place no confidence in this medicine, and should not lay aside other remedies, whose powers under such indications have been well attested. As an emmenagogue, it is said that Iodine possesses considerable powers. Dr. Coindet bears testimony to its activity, in restoring the menstrual discharge, after all the other actuals of the clap had been used without any advantage. Dr. Ebeile has stated on the contrary, that he has not found similar efficacious results from its use in Amenorrhea, a restoration of the secretion taking place in a very few instances in which he used it. He attributed the successful results in those few cases, to the general influence of the medicine upon the system, rather than to any partiality for, or specific action upon the uterus. It is likewise upon the same modus operandi that it diminishes the quantity of the discharge, for it is also stated that it exerts a modifying power over the secretion. Magendie in his formulary for 1829 narrates a case, in which he prescribed the Iodine in supposed Amenorrhoea and abortion was the consequence showing that, contrary to the opinion of Dr. Ebeile, and confer

matory of that of Dr. Cornit. it may probably possess some specific power on the uterus. But I think, further and more unequivocal evidence, than the occurrence of abortion in single instances should be required before credence be given to its specific power over the organ - In chronic vaginal discharges much benefit has also resulted from the employment of Iodine, Cases of Leucorrhoea of six months standing having been speedily and permanently cured by Dr. Ebele prescribed it in a case of the disease, which had existed, in an aggravated form, for ten years, the remedy was continued for three months, at the end of which time a perfect cure was effected. From the testimony of Dr Pelle of Philadelphia and others, it appears to have been extensively used in Gonorrhoea. I should myself, by no means consider it an eligible remedy in the inflammatory stage of the disease, but if, after the employment of blood letting, Saline Cathartics, Antimonials, and the usual topical remedies, the discharge continues in the form of Blennorrhoea owing to a relaxed state of the mucous follicles of the Urethra benefit might arise from the use of Iodine either internally or in the form of injections - In Syphilitic affections also Iodine has been used successfully. Upon the first appearance of the venereal taint, I should consider the physician

guilty of a culpable neglect of the well tried principles of the healing art, who would lay aside, Mercury, the most potent antidote, and successful vanquisher of the Syphilitic virus, and substitute a remedy so feeble and tardy in its operation as Iodine. The only, and certain effect of which would be, the unabated violence, and progressive ravages of a disease, now perhaps, invincible, in consequence of the shattered, and disqualified condition of the constitution of its victim, for the reception of more appropriate remedies. But in an advanced or secondary stage of the disease when the Mercurial plan has been properly and fully instituted, and the system seems likely to suffer from its continuance, it may then be withheld for the trial of other remedies. Iodine may, at this juncture, be given with a better prospect of advantage from its use. And in many of those affections which are consecutive of Syphilis, such as nodes, cutaneous eruptions and blotches, which owe their appearance to the cachectic condition of the system, induced by the disease, Iodine is a valuable remedy, when conjoined with the vegetable and Sulphuro Antimonial alteratives. When combined with Mercury in the form of ointment, it forms an active discutient proving highly useful, in incident bubo and other glandular enlargements, In Ophthalmic inflammation of a chronic form

in subjects of the strumous Dyscrasia, Iodine justly merits high commendation, when applied in the form of ointment to the Vasa in such cases, it often produces decided benefit by altering the condition of the diseased membrane, checking the muco purulent secretion, and entirely, in many cases, supplanting the diseased action. In several of those diseases which affect the dermoid tissue, either constitutionally or locally, curative properties have been ascribed to Iodine. Those in which mention is particularly made of its utility, are, Acne, Eczema, Tinea Capitis, Psora, Lepra and Pernio or Chilblains, in which last affection, consisting in an erythematous inflammation of the feet and hands, produced by cold, it is one of the best remedies. It should be applied to the affected part, in the form of the dilute tincture, or weak solution in water. In a case of indolent ulcer, situated at the verge of the anus, the character of which simulated that of carcinoma, the local use of the tincture was prescribed by Prof. Smith, with decided benefit; constitutional means are also being employed, and the patient will I have no doubt be perfectly cured. In chronic enlargements of the joints, Iodine has proved to be a useful agent in the hands of many highly respectable practitioners. During the last spring, I used it in a case of Arthrocace of the knee

with evident improvement in the condition of the diseased joint. An Ulcer of considerable size, situated over the anterior aspect of the head of the tibia, which previous to the exhibition of the Iodine, had increased daily, and discharged an ill digested secretion of a caseous nature, healed rapidly under its use, and a degree of mobility of the joint was commanded, of which the patient had not availed himself for a long time previous.
Witnessing the flattering change, which took place from the use of the remedy, I entertained strong hopes at one time of the recovery of my patient, he having acquired a facility of progression, to which he had been a stranger for many months. But scarcely had he time to contemplate and admire the improved condition of his diseased joint, when symptoms of Phthisis, indicated a metastasis of the morbid action upon a part absolutely essential to vitality, and which very soon became too deeply involved in tuberculous degeneration, to be relieved by Iodine or any other remedy. In Mapendie's Formulary, a case of white swelling of the knee, is reported, which had resisted the employment of repeated blistering, leeches, and sedative lotions, but was finally perfectly cured by the local & general use of Iodine. I have seen Scrophulous ulcers of the neck, involving the glands

of that region, speedily assume a healthy character and cicatrize under its use, showing that the remedy had a special power over the disease & action, producing the lesion. Dr Ebell has quoted the opinion of Dr. Gardner and M. Calloway, in support of the efficacy of Iodine in Marasmus or strumous disease of the Mesenteric glands. In the case of a child labouring under, enlargement and ulceration of the submaxillary glands, accompanied with mesenteric disease. I gave the Iodine internally, in the form of tincture, in doses of three drops, three daily, then took place, under its administration, decided improvement in the ulcers, and diminution in the size of the diseased glands, but little or no change was produced in the diseased mesentery, as learned from palpation. The little patient continued to be worn down by irritative fever, and finally died of Marasmus. The result of this case forbids my confiding in the remedy, with a degree of certainty, equal to that expressed by others, in Scrophulous disease of the Mesenteric glands. For in truth, I look upon this form of disease, as being as intractable, and as much beyond the control of medicine, in most cases, as it is when located in the lungs. And indeed the former seldom exists to any considerable extent, without the latter. Many respectable members of the profession have spoken highly of Iodine as a remedy, in enlargements of the testes, and also of the Prostate gland

and if given with due attention to a correct view of the Pathology of those distressing affections, I have no hesitation to say, that it would often prove ~~of~~ be productive of much benefit. In gout, advocates are not wanting, for the use of Iodine: In the first stage of this painful disease I should condemn the employment of an article the true therapeutical effects of which are not fully ascertained. And by a proper, and energetic treatment of the acute stage, I think the necessity of resorting to it in the chronic, might be obviated. For it is only in cases which are treated without sufficient sanguinous depletion, that those sequalæ appear which call for the administration of Iodine. If however, after the subsidence of the inflammatory symptoms of gout, the diseased joints remain stiffened puffed, and arthritic deposition take place, Iodine might under such a condition of things, be used with advantage. My Grandfather now eighty years of age, has suffered many attacks of the disease, it being the only one of the entire catalogue of human maladies that has invaded his system, since his early youth, and he is now perfectly free from any symptom demanding its employment. Iodine is a medicine which requires time for an adequate display of its remedial power, and in all the diseases, where the phlogistic diathesis is so prominent as in gout. It should be said of such medicines as Iodine "non tale auxilio". As a deobstruent, in enlargements

of the Spleen and liver. numerous cases are recorded, to show its virtues. Dr. Thompson of Louisiana, asserts his confidence in it as a remedy, having used it with complete success in many cases of enlarged and indurated Spleen. The opinion of Dr. Cartwright of Natchez, is also given in support of the happy effects of Iodine in enlargements of the abdominal viscera. Dr. Eberle gives it also great praise in such cases, it having proved of extreme successful in his hands in removing visceral obstruction. I witnessed its beneficial effects in a case of enlarged Spleen, as prescribed by Prof. Chew, in the Baltimore infirmary. The Iodine was used locally, by friction on the diseased organ, and also given, alternately, with tonics and aperients. Prof. Smith says that Iodine has failed to produce, in his hands, the salutary effects which are ascribed to it, in many diseases by other practitioners, though he considers it a valuable agent in the treatment of chronic diseases which are based upon the Strumous Diathesis. Iodine has also been employed in Hip Disease, Spinal distortion, Fistula Lachrymalis, Otorhoea, Fungus Hematodes, Ozena, Angina Pectoris, Paralysis, chorea, Canine madness, & Phthisis Pulmonalis. In most of which diseases, I have no reasoning or experience and but little authority to offer in support of its efficacy ~~to~~

Paralysis, oftener a symptom than a disease, it being indicative of a diseased condition of the Cerebro Spinal axis, or nerves themselves, causing a diminution or abolition of sensation and voluntary motion, and although a knowledge of the seat and nature of the cause producing these phenomena, is often very difficult indeed to be obtained, yet I am fully persuaded that Iodine, would often avail much in the treatment of the disease in some constitutions. Disease of the vertebral column, of a tumorous nature, implicating the spinal marrow or its theca, or a similar condition of the brain, and its membranes, causing Paralysis might be benefited by Iodine. Tumors or other abnormal growths or deposition, involving particular nerves or by their proximity pressing upon them, and thus partially or totally destroying their function, might be benefited by it. When surgical means were deemed inexpedient or unnecessary. In Otorrhoea, I have witnessed the most happy results from its employment, in Scrofulous Children. Prof. Hale in his recent lectures upon Animal poisons, mentioned that Iodine had been used in Canine Madness, but did not evince any confidence in it, by showing its special utility, either by facts or argument. Dr. Ebeile recommends the use of Iodine in enlargements of the Tonsils of long standing, cases of this disease having been cured by it under his direction. A patient of my Father's who

laboured under hepatic derangement, with hypertrophy of the tonsils. After a gentle course of mercury, took the Iodine for some time without any relief from the desirable effects, the enlarged glands, or diminution in the size. She continued to suffer until compelled to seek surgical aid at the hands of Prof Smith, who afforded her great relief by an operation. Prof Smith says it has proved always of no avail in his hands in tonsilean affections, and in all other cases in which he has used it, good effects have seldom resulted, unless aided by other remedies. Though he states, that as an anti rheumatic agent, and in tardy appearance or suppression of the menstrual flux, he has witnessed its efficacy. In Phthisis Pulmonalis the Iodic preparations have met with extensive use. In that variety of this intractable disease, which is of a tuberculous nature there is perhaps no remedy, which is at this time, more universally employed by physicians than Iodine. And there is probably none, more likely to arrest or retard tuberculous degenerations of the lungs, than it. If upon the first dawning of this dreadful malady, this remedy in conjunction with climatonal and other hygienic means, will not prevent its further development, it would doubtless prove invincible to any other set of agents, which the

practitioner could devise, I have seen, in several instances perceptible, though transient advantages, arise from the exhibition of Iodine in Phthisis. The late venerable Prof. Potter ascribed to it more virtue, than to any other remedy in this form of disease, but with wonted candor in acknowledging the imperfection, as well as in asserting and proving the power of medicine he stated that no hope could be indulged of effecting a cure - Prof. Reid speaks highly of the powers of Iodine as an Anti Carcinomatous agent: And testifies to the benefits which have resulted from its use in his practice in many forms of disease: but especially in such as are based upon the Strumous habit, or arise in Constitutions in which such proclivity obtains. Iodine has, as stated by Toxicologists, antidotal powers against Strychnia. Its effects in this respect I presume are Chemical, and consist in its effecting a decomposition or forming with the more formidable poison, a compound less deleterious than either. Its use in such cases, should always be preceded by the Stomach Pump — employed by the

For the ordinary administration of this medicine, various preparations have been adopted - The Alcoholic Tincture - The simple Solution, consisting of Iodine with the Iodide of Potassium

dissolved in water - and the several Metallic Iodides, have all been employed - The aqueous solution of Iodine, the proto and per Iodides of Mercury and Iron, are capable of fulfilling every therapeutical indication for which the Iodic preparations can be invoked — In examining the various works upon Materia Medica and Therapeutics, which fall into the hands of the Medical Student, at the present day, as text books, it does not require much thought or discrimination on the part of the Professor to produce the conclusion, that there are many articles associated, with each of the classified divisions, which possess the distinctive properties, in so feeble a degree, as to entitle them to but little or no confidence as remedies - And while the rejection of such, from among the remedial agents, would in no wise impair the integrity of Therapeutical resources - it would obviate, the supposed necessity, on the part of the student, of much study, as well as a frequent cause of perplexity, disappointment and failure to the young practitioner. And although these effects may be, in some measure, prevented by the advice of a judicious preceptor, nevertheless, I think they ought to suggest, and justify the policy of denying any article a place in the Materia Medica, until all the testimony in favor and against its virtues be carefully considered, and its claim to a defined position be, thereby, fully substantiated. Fashion and

great names, have their influence in the medical, as in other professions, which influence has not invariably a beneficial tendency. Neither the antiquity, novelty, or celebrity of origin, of a principle or practice, ought to be considered positive evidence of its correctness. We are well aware that fashion, often sanctions the great errors, which great names sometimes impose, and that they are the most difficult to eradicate. — In these desultory reflections, my only aim is to uphold, that spirit, of impartial inquiry, and unbiased discrimination, which is the only truly conservative measure, by which this important branch of the science of medicine, can be kept clear and pure. And in accordance with these views I have considered, the article, of which properties I have endeavoured to treat, as worthy of being classed with the valuable medicinal agents —

While a sense of my incompetency fully convinces me of the imperfection of this dissertation, a sense of gratitude admonishes me of the impropriety of omitting to express to the members of the Faculty of Physic of the University of Maryland individually, my profound admiration of the exertions you are making towards the attainment of noble ends. With unmable reputation already acquired, and the exercise of praiseworthy means you cannot fail to succeed. Permit me to tender my heartfelt wishes, that God may bless you

1843

An
Inaugural Dissertation
on Scarlatina
Respectfully Submitted to
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Professor of Materia Medica
at the
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for the degree of Doctor of Medicine
by
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Scarlet Fever

This is a febrile disease of a contagious nature and appearing under every grade of violence, from the simplest and least dangerous to most severe and malignant form; it is dreaded more by some than almost any other.

It is characterized by scarlet efflorescence of the skin and mucous membrane of the fauces.

Generally commencing about the second day of the fever, and declining about the fifth, being in most cases accompanied by inflamation of the throat, and occasionally, of the submaxilary glands.

There are several varieties each of them requiring a different description.

1st Simplex. The patient is seized with a slight chill, alternating with transient flashes of heat, depression, nausea, pains in the loins and lower extremities, headache, hot and dry skin, frequent and quick pulse.

Generally within the first forty eight hours, after the commencement of the fever, a scarlet eruption makes its appearance, first on the face and then

successively on the neck, trunk, and extremities.

This rash consists of innumerable red points, which uniting into each other, gives a diffused blush to the Skin.

In some cases the scarlet efflorescence, is uniformly diffused over the whole surface of the body, in others it appears only in large irregular blotches, leaving the intermediate portions of the Skin of a natural colour.

The milliary glands and papillae of the Skin, are usually somewhat enlarged, giving a roughness to the surface, more especially to the breast and extremities.

When the Skin is pressed with the point of a finger, the redness disappears for a moment, leaving a transient white Spot.

With the commencement of the fever the fauces become inflamed, accompanied by eruption along the edges of the tongue, some difficulty in swallowing voice thick and less sonorous, which symptoms are generally the first diagnoses of the disease, seldom much thirst and the appetite is greatly impaired.

On the fourth day the eruption and fever are generally at their complete state of development, and the fifth both usually begin to decline, and continue to diminish until they have gone entirely off, which will be about the seventh day, and in some instances this stage of disease is so light as scarcely to attract notice,

2nd Anginosa. In this form the symptoms are more violent than the preceding one.

The former stage of anginosa is almost always attended with considerable headache nausea, sometimes vomiting sudden stiffness of the muscles of the throat, and angles of the lower jaw.

Frequently these local affections precede the occurrence of the fever, when on examination the fauces and tonsils, are found to present a red and slightly turnid appearance.

In some cases the fever proceeds or accompanies the sore throat, in others it is delayed untill the appearance of the efflorescence.

It is generally from its commencement of a more active kind than in Scarlatina simplex

The thirst generally urgent, and the heat of

the skin is more intense than in any other febrile affection: Dr Willian and Currie have found the temperature as high as 108 and even 112 degrees of Far.

The eruption frequently does not appear as early in this as in the simplex varietys, it is often delayed to three or four days and generally comes out in scarlet patches on the chest and arms particularly about the elbows.

In some instances the eruption disappears the day after it comes out, and reappears at uncertain periods.

Its whole duration, is longer than scarlatina simplex. When the fever declines as early as the fourth or fifth day, the tonsils and palate seldom become ulcerated, the swelling and inflammation in the fauces, pass off with the fever and eruption.

When the fever lasts beyond this period, or when it is violent, during the first three or four days small ulcers form about the fauces, the glands of the neck become very much swollen, sometimes so large as to produce suffocation, whilst the patient is harassed with a painful diarrhoea.

The inflamation occasionally extends to the the trachia, and death ensues under the symptoms of acute bronchitis.

The brain often becomes affected during the eruptive stage, which gives rise to deep and fatal coma. The patient sometimes at the close of this disease suffers greatly with a painful discharge from the ears, frequently accompanied with deafness.

3rd Maligna. Commences like the former variety, but is more dangerous and violent in its character. The eruption at first is pale assuming afterwards a dark or livid red colour; very variable in its duration, and time of its appearance which is from the second to the fourth day.

The heat is not so great as in anginosa, pulse at first active, soon becomes small and feeble; delirium comes on at an early period, and often continues with occasional intermission, throughout the course of the disease, the eyes are dull and inflamed, the cheeks are diffused with a livid flush, the tounge is dry and covered with a thick brown fur, breath fœtid, sometimes the throat and mouth appear to be nearly filled with dark viscid mucus, of

which it is very difficult to keep the mouth and throat clean.
The tongue becomes much chafed, very tender to the touch.
Sometimes the disease terminates fatally with symptoms of cerebral effusion, before the throat and mouth ulcerate.
In cases of a particularly violent character, collapse supervenes towards the middle or end of the second week of the disease.
When this occurs the heat of the surface sinks, the pulse becomes very feeble and frequent, the tongue of a dark brown or black, the animal powers greatly prostrated, painful diarrhoea often ensues, and in some instances hemorrhages comes on towards the fatal termination.
4 & 5 Sinexanthemata. This form of disease is limited to the mucus lining of the mouth and fauces, the scarlet efflorescence of the skin being absent.
This specia often attacks part of large families, whilst some of the members are labouring under anginosa and malignant.
This disease pursues nearly the same course

as that of anginosa, except absence of the eruption of the skin.
Experience however decides that the scarlatina simplex, anginosa, malignant, and the sine exanthemate are merely varieties of the same disease, all of which proceed from the same course of contagion.
Sequelae, Scarlatina like measles, is frequently followed by various and often dangerous diseases.
Dropsy is an occasional consequence of scarlatina. It occurs more frequently in the form of anasarca of the face, eyelids, and lower extremities, but occasionally it becomes general.
There is indeed no acute disease which is so apt to be succeeded by dropsical effusions as scarlatina and especially the case of anginosa.
The swelling seldom occurs before the ninth or tenth day after the eruption has disappeared and continues usually two or three weeks.
The malignant and anginosa varieties are sometimes followed by an abcess of the tonsils enlargement of the parotids, opthalmia, deafness, inflamation of the mucus membrane of the

alimentary canal, suppuration of the glands about the neck, chronic cough, bronchitis, or other slow suppurative inflamations, with hectic fever and its consequences.

The hair is very apt to come out on the abatement of scarlatina.

Diagnosis. The only disease with which scarlatina is liable to be confounded, is measles.

In the simple and anginosa varieties, the diagnosis, is indeed sometimes attended with difficulty, it may be distinguished by the time intervening between the first accession of the fever and the appearance of the rash.

Measles commences with sneezing, cough, suffusion of the eyes, and other catarrhal symptoms, while in scarlatina the first sensation of uneasiness is felt in the throat.

The eruption of measles begins to show itself on the fourth day, whereas in scarlatina, it may appear on the second.

The rash of the measles is slightly elevated so as to be sensible to the touch, in scarlatina the eruption has the appearance of a broad intermediate shape-

and the colour of a rosid red, whereas in measles it is of a dark or raspberry hue

Measles appears to be principally affections of respiratory organs as bronchitis pneumonia and croup.

Prognosis, In scarlatina is extremely various since the disease assumes every grade of violence

The prognosis however ought to be cautiously given for even cases which at first appear under mild symptoms sometimes will go on for a few days in a simple form and all at once will change to the most dangerous grades, this is more apt to be the case when the epidemic is of a severe character

The angenosa variety can never be regarded as being free from danger.

S Malegnant is to be counted the most fatal It is generally, and I think justly considered that the danger in scarlatina, is to be estimated by the character of the affections of the throat, Dr. Armstrong seems to be of a different opinion, at least he considers the affections of the throat, is rarely the cause of death; a termination which he

rather refer to, violent internal venous congestion & visceral disorganization.

With regard to the eruption, when its appearance is of a bright red and generally diffuse over the body, this symptom is much more propitious than when it is of a pale dark colour. White slough in the fauces is more favourable, than gray or brown.

Most of the writers believe this disease is more fatal with adults than with children;

I must ask leave to differ with them, for in children the throat is more affected by the putrid matter, which collects and is swallowed, causing irritation and action on the bowels as though they had been taking aperients.

Older ones are able, to spit up all of this, and use the gargle, which keeps the mouth and throat in a better condition.

In slight forms of scarlatina such as simples very little treatment is requisite, rather than to give an emetic, attend to the bowels, keep them mildly open, and persue the antiphlogistic regimen.

In such cases however the medical attendant

should be careful, to watch the disease action, at the period when the eruption begins to decline; for that is the most critical stage.

If the skin should become dry and hot, sponge the body with water or vinegar, use slight astringent and emolient gargles, such as sage tea, with a small portion of alum, sweetened with honey or an infusion of green tea; but if the general excitment should run high, it will be prudent to adopt a more active method.

In anginosa form our treatment must be more active. Most writers agree in recommending the use of emetics in this as well as in all other varieties of scarlatina. the sooner they are resorted to, the more beneficial in general will be their effect; and it is particularly in the first stage that they are so valuable.

An emetic given at an early period, moderates the whole course of the disease produces a moisture of the skin, and the eruption appears to come out under its influence better than from any other mode of practice.

Bleeding is followed more or less by all writers: Mackintosh thinks it is useful particularly when there is much inflamatory action and pain in the head

The free topical abstraction of blood by cupping behind the ears will generally relieve both throat and head, but if any organ is threatened with inflamation you must bleed copiously.

When the brain is the seat of inflamation bleed, apply warm fomentations to the feet, cups to the temples and shaven scalp; administer active purgatives combined with carbonate of amonia or camphor

In visceral inflamation attended with collapse I should be disposed to resort to calomel and opium, with cupping and large fomenting cataplasms over the affected part,

As regards purgatives, at the commencement of this disease gentle aperients are useful merely to keep the bowels open untill the eruption begins to dry up, then they should be acted on more freely, two or three grains of calomel in combination with jalap or rhubarb

will be found beneficial.

Should the mucous membrane of the alimentary canal shows signs of irritation, by frequent stools, of an unhealthy appearance, drastic purgatives should be withheld, and milder ones employed. In such cases it may be necessary to apply leaches, or a blister to the abdomen, and to restrict the patient to a strictly farinaceous diet.

If suffering from excessive heat, the body may be sponged with cold water, from which great comfort and advantage will be derived; the skin becomes moist and the patient generally has a fine sleep afterwards but the water ~~should~~ should not be applied, without the skin is above its natural temperature.

Dr. Armstrong observes, that as the disease advances instead of cold, tepid effusions are to be used, he also says that purgatives and effusions may be conjointly employed with advantage.

Malignia commences with symptoms similar to angiosia, and passes rapidly to typhus stale; it is therefore of the utmost importance to stop its course. If called to the patient at the

onset of the disease employ emetics and brisk purgatives, after the operation of these, evacuants; if the stage of excitement begins with violent symptoms, such as intense heat of the skin, severe headache, delirium, and a frequent quick and tens pulse, blood should be promptly drawn. Sometimes by one good bleeding and a brisk purgative the violence of the disease gives way. After this treatment if the patient sinks into the low stage, the main dependence will be on stimulants and tonics, such as wine whey weak solutions of amonia, infusions of Serpentaria, camphor wine and bark, and opium where the brain is not particularly affected.

For a gargle use the following preperation. Capsicum three teaspoons full, two of fine salt and half a pint of boiling water, strain them and add ½ a pint of good vinegar, when cold take one table-spoonfull every half hour and gargle with it frequently.

My Father uses this gargle after emetics and has had great sucsess; out of six hundred and thirty cases he has lost twenty seven.

His treatment is as follows; commencing with free emetics, then gentle aperients using the Capsicum preparations as beforementioned, he is careful to have his patients to spit up the putrid mucus which collects in the throat and mouth.

If he can get the emetics to act well, the mouth and throat gargled frequently and the spittle to flow freely, he has seldom much trouble; he never causes the bowels to be acted upon much untill the eruption begins to dry up, he then purges them well and endeavours to prevent the disease from settling on any of the organs.

By attending to this treatment you seldom have dropsies of any kind to ensue.

Prevention. It is said belladona will prevent this disease by giving it 8 or ten days befor exposure to its contagion.

It is administered as follows three grains of the extract is to be dissolved in an ounce of cinnamon water with a small portion of nutmeg, and given in doses of from two to-

then drops to children under one year old, and one drop more for every year above this age; Dr Chew mentioned in one of his lectures that he gave this preperation in a family where several had scarlatina, and all those that took belladonna escaped.

The patients Chamber should be kept freely ventilated frequent changes of the linnen are essential, no bed curtains should be allowed; it would be well to wash the floor around the patients bed once a day. none of the family should go in to the room, excepting those that nurse the sick; if they do they should avoid the patients breath, for in malignant form the breath is said to be very infectious, and the same has been said of the discharges from the fauces.

Thesis,

1843

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on

The Structure and Functions

Of the Skin,

by

Charles. S. Buckner.

of Mo.

The Skin is composed of three dissimilar laminae, which are denominated Cutis Vera, Rete Mucosum, and Cuticula or Epidermis.

The first mentioned of these is the innermost, and presents the greatest degree of firmness; hence it has been termed Cutis Vera. - This is a strong, dense and elastic membrane, into the texture of which a large proportion of fibres, of a tendinous appearance, enter, intersecting each other in various directions, and leaving between them holes for the passage of nerves, vessels, and hairs - Blended with these fibres, are an innumerable number of delicate blood-vessels, that ramify throughout the whole texture of the Skin - These vessels do not, in their healthy and undisturbed state,

carmy red blood, and cannot, therefore, be easily seen; but by the use of rubefacients in the living, and injections in the dead subject, they can readily be brought to view. The bright redness which pervades this tissue in the new-born infant, may be cited as conclusive evidence of its vascularity. It is abundantly supplied with nerves; indeed so general is this distribution of nervous fibrillae throughout the whole texture of the Cutis Vera, that it is impossible to insert a needle into any portion of it without wounding one or more of them. It consists chiefly of gelatine; hence it is used in large quantities in the manufacture of glue, and it is by the combination of this gelatine with tannin, that the true skin is converted into leather, in the process of tanning.

The Cutis Vera is united to the structures beneath it, thro' the medium of the cellular membrane, which, together with the layers exterior to it, forms the common Integument. In certain animals however, and more particularly in certain portions of the body, the Cutis Vera adheres to muscular fibres, thereby forming what has been called the panniculus carnosus or muscular web. This is well exemplifyed in the porcupine and hedg-hog, which animals

have the power of erecting their quills or spines by means of this structure - Many persons, moreover, are enabled powerfully to move and corrugate the hairy scalp by means of the Occipito-frontalis muscle; these, then, are instances of panniculus carnosus

The Skin is abundantly supplied with sebaceous follicles They are most abundant in those parts which are covered with hairs, or where there are folds of the skin, or where the surface is exposed to friction; as in the axilla, on the pubes, scrotum, groin and dorsum penis - Their situation is often indicated by dark specks on the surface, which, when pressed, are forced out, along with the sebaceous secretion, resembling small worms - These sebaceous follicles secrete an oily fluid designed to be spread over the Epidermis, hairs &c, giving suppleness and elasticity to the parts, rendering the surface soft and smooth, and thus obviating the evils of abrasion, insensibility &c that might result from a hard and dry state of the surface - It is supposed, moreover, to possess the power, by its unctious nature, of protecting the surface against the influence of humidity - This limpid oily fluid, however, should neither be confounded with the common sweat, nor yet with that pasty, fatty matter which infests only certain portions of the

body, and which is mostly caused by a want of proper ab-
-lutions

Thus constructed, the Cutis Vera forms a covering for the whole body, and extends into all those cavities which open upon its surface; as the nose, mouth, anus, vagina &c.

So soon as it is reflected into those cavities, however, its texture becomes changed, and instead of its usual dense and fibrous appearance, it becomes extremely thin and flexible and of a bright scarlet color.

It is of unequal thickness in different parts of the body; thus it is thickest on the back, and on those parts which are continually exposed to pressure; as the palms of the hands and soles of the feet. It is thinnest on the fore-parts of the body and on those parts where opposite surfaces touch each other. It is thinner, moreover, in women than in men.

It has been maintained by some that muscular fibres exist in the structure of the Skin, and the advocates of this doc-
-trine found their opinion, in a measure, upon the readi-
-ness with which the Skin returns to its natural state after having been in a state of distension. But we need not unnecessarily multiply causes for the production of a certain result, and surely the above mentioned phenomenon is easily accounted for on the principle of elasticity, whilst even

the most zealous advocates of its muscularity have been unable to detect a single muscular fibre in it. We have numerous examples of the very great elasticity of this structure; it is sufficient to mention the great distension which takes place in Ascites, in pregnancy, in the perineum during parturition, and the readiness with which it returns to its natural state so soon as these causes are removed.

Upon the removal of the Cuticle and Rete Mucosum, many papillæ are to be seen on the surface of the True Skin. Under the name of Corpus Papillare, they are sometimes described by Anatomical writers as constituting a fourth layer of the Skin. It is formed by the extremities of nerves and vessels, which, having penetrated the True Skin, are grouped in small villi of an erectile nature. If the Cuticle and Rete Mucosum be removed, they can very readily be seen on the extremities of the fingers and palmar surface of the hands, where they have a concentric arrangement.

Upon viewing the surface of this structure even with the naked eye, we find it to be porous; some of these pores are the ducts of sebaceous glands, others serve to transmit hairs, and others again are supposed to give passage to the greater part of the perspirable matter.

In a healthy state, and when all the lamellæ

exterior to it are removed, the Skin will always present a white appearance; and this is as much the case with the blackest African as the fairest European. The varied shades of color in the human species depends on the coat exterior to the Cutis Vera, termed Rete Mucosum

This is a thin stratum of a pulpy, mucilaginous consistence, which appears to be spread uniformly over the external surface of the Cutis Vera, and cannot easily be detached from it without deranging its own substance. The structure of this coat has, for a long time engaged the attention of Anatomists and Physiologists. Some have considered it to be a mucus secreted by the papillae of the True Skin and spread over its substance to preserve it in a state of suppleness necessary to the performance of its functions. Such was the opinion of Malpighi. Others suppose that there is a particular apparatus composed of a glandular or secreting structure situated beneath the papillae and furnished with ~~an~~ excretory ducts, which pour out the coloring matter on the surface of the True Skin. Of such belief was Brechet. Gauthier considers the Rete Mucosum to be composed of four layers, whilst its coloring matter he believes to be furnished by the bulbs of the hairs; he states that having applied a blister

to the Skin of a negro, he saw the coloring matter oozing from the bulbs of the hair, and deposited in the Rete Mucosum.

It seems most probable, however, that this is a double membrane, consisting of a gray transparent layer, and of a black net, very much resembling the Pigmentum Nigrum of the eye, its coloring matter being exhaled by the vessels of the Skin. It has been generally supposed that there are no vessels in the Rete Mucosum; at all events none have ever been injected, altho' a preparation was made by Dr Baynham of Virginia, whilst in London some years ago, ~~an~~ which was supposed by some to demonstrate the existence of such vessels.

The composition of the coloring matter of the Rete Mucosum has not been accurately ascertained; Blumenbach supposed it to consist chiefly in Carbon. Chlorine destroys its black color and renders it yellow.

It is this substance which gives the peculiar complexion to the different races of men; which gives rise to the black hue of the Ethiopian, the tawny color of the Asiatic, and the red or copper color of the American Aborigines, whilst it is transparent or whitish in the European. In all these different races of men the True Skin is uniformly white, and it is owing to the Rete Mucosum that the different varieties of complexion obtain. It is

the general opinion that the black color of the African race is caused by the powerful rays of the Sun acting upon the skin for a succession of ages, and that it is designed to protect them against the influence of solar heat. The Sun certainly has the power of modifying the color of the skin to a certain extent. The difference in the color of one who is in the constant habit of exposing himself to the rays of the sun, and another who carefully excludes himself from it, is well known to all.

In this way the inhabitant of Spain or Italy is easily to be distinguished from his more northern neighbor of England or Germany. But if the black color of the Ethiopian skin is designed as a protection against Solar heat, why is it confined to the Ethiopian? Why does it not prevail amongst the inhabitants of all intertropical climates? Why is it not to be found upon the burning sands of Asia and the South sea Islands?

The idea which has prevailed that the blackness of the skin is in direct ratio to the heat of the climate, is certainly erroneous. For example, in the extreme north of Europe we find the Finlanders with fair skins and blue eyes, whilst the Laplanders and Esquimaux, inhabiting countries equally remote from the equator, have dark skin with hair and iris black. And so again we find the

Icelander to have fair skin and light colored eyes, whilst the Greenlander, living still further north, has dark swarthy complexion with hair and eyes black. Travellers tell us of many distinct tribes inhabiting the interior of Africa having red or copper colored skins, and living in the midst of their more sable brethren

Various theories, besides that of direct solar heat, have been formed to account for the black color of the Ethiopian skin. Blumenbach supposed that the heat of the climate produces an excessive action of the liver, with a consequent undue secretion of bile; "that in consequence of the connection which exists between the actions of the Liver and Skin, an accumulation of Carbonaceous matter takes place in the Cutaneous vessels, and this process being continued for a succession of ages, the black color of the skin becomes habitual" — Dr Rush was of opinion that "its black color depended upon a diseased state of the Skin; "a modification of that disease which is known by the name of leprosy"

The Rete Mucosum of the Ethiopian has been known to undergo singular changes of color, owing undoubtedly either to an absorption of its own substance or of the pigment upon which its color depends. I myself have known an

instance in which this process was taking place - The subject was a man about forty years of age, and the original color of his skin that of a very dark mulatto - Some years previous to the time at which I saw him a change of color began in small spots on the dorsum of the hand, and at the time referred to, the whole of both hands, a portion of the face, and various parts of the body were as white as the skin of an European; Dr Rush mentions a similar instance; But a case is reported in the 1st Vol: of the Med: Recorder directly the reverse of all this; the subject was a woman in whose skin a change took place from white to black; It occurred suddenly in the night, after she was informed of the tragical death of her children.

Exterior to the Rete Mucosum, and forming the outermost layer of the Skin, lies the Cuticula or Scarf Skin. This is a dry insensible ~~membrane~~ structure, without nerves and vessels, and supposed to be the most inorganic part of the body. It powerfully resists the putrefactive process, and portions of it may be found in graves long after all the other soft parts are decomposed

It is intimately connected to the Cutis Vera and nicely accommodated to its surface by forming ridges and

furrows corresponding to it. It seems to be placed there not only for the ~~minute~~ protection of the minute sentient extremities of the nerves and blood-vessels beneath it, but also to prevent the constant imbibition and transudation that would necessarily take place, did no such obstacle to it exist. It is particularly calculated for protecting the body, which it covers; and has the property of resisting the action of several powerful chemical agents

The Cuticle in its natural situation is pierced by many foramina or pores, which, however, answer for different purposes. Some are formed by the passage; others are supposed to be the ducts of sebaceous glands, and a third set are supposed to give passage to the greater part of the ~~perspirable~~ insensible perspiration

These last would seem to be of greater volume at the ends of the fingers and at the palmar surface of the hands, than elsewhere; for in warm weather, or when the extremities of the fingers are prepared, small globules of fluid can be seen with the naked eye, in those situations.

Notwithstanding these foramina seem to be very evident when the Cuticle is in its natural situation, several of the most successful investigators of the subject have declared their utter inability to discover any such fram-

ina, when the Cuticle is separated from the other layers of the skin. Hence several of these, and Professor Meckel amongst the number, were induced to believe that the matters of exhalation and of absorption soaked through the Cuticle

In support of this doctrine, he observes; that if the matter of perspiration is transmitted by vessels as delicate as these must necessarily be, such vessels in the feet, must be torn by the weight of the body in those who walk, whilst those in the hands of labourers must experience the same fate. Mr Cruikshank, also, was unable to detect pores in the separated Cuticle, but contends, nevertheless, for their existence. He states that no foramin will appear in a portion of separated Cuticle, even tho' it has been punctured by a needle, and that when a portion of Cuticle has been peeled off which was covered with hair, and which must necessarily be punctured, still no puncture was visible; thus satisfactorily accounting for the non appearance of the natural pores of the Cuticle

Dr Wistar, in his "System of Anatomy" speaks that the permeability of the Cuticle is incontestably proven by the functions of perspiration and absorption, but expresses his belief that these perforations have a peculiar structure, and are not simple foramina. In support of his belief he

adduces the instance of a vesicle formed by the operation of Cantharides, and states, very truly indeed, that if the Vesicle is not lacerated it will confine the effused fluid for a considerable time, without any appearance of its escape through these pores.

But may not the explanation given by Cruikshank, be also offered in solution of the fact? The portion of Cuticle forming the vesicle being separated from the subjacent structures, may not its pores, altho' simple foramina, be so obstructed by the elasticity of the Coat as to prevent the passage of the effused fluids?

Many different opinions have been given as to the manner in is originally formed and reproduced. It seems, however, to be a secretion of the Cutis vera, deposited on its papillae and gradually becoming concrete. On certain portions of the body, particularly the head, it exfoliates in the form of small scales; so that some Anatomists have supposed it to be formed of small ~~scales~~ vesicles deprived of their contents, deposited one upon the other, and thrown off in the form of small scales. Some have supposed to be formed of mucus, and others of concrete albumen in a peculiar state of modification.

So much for the structure of the various

coats of the Skin; we will now approach the second part of our subject, viz, the functions of this organ. These are so very various, and embrace so extensive a field, that an enlarged and accurate account of them could not be given within the compass of a brief essay like the present.

The Skin in a physiological point of view certainly occupies a most important position in the animal economy. For whether we regard it as constituting an organ of sense, or whether as the medium or instrument of inhalation, by which office it makes a part of the absorbing system of lymphatics, or whether we consider it as the organ or laboratory by which the perspiration is eliminated from the mass of the circulation, it contributes equally important services in the maintainance of life and health.

On the subject of cutaneous absorption, the greatest difference of opinion has prevailed; numberless experiments have been instituted in order to ascertain the existence or non-existence of this function, and frequently with diametrically opposite results; some believing ~~that~~ it to exist to such an extent, that life may be preserved for a considerable time by nourishing baths, whilst others deny its existence in toto, asserting that no such absorption can exist under any circumstances. Whilst

we are unwilling to run into either of the above extremes and are certainly not disposed to believe that it ever occurs as a natural function, we are, nevertheless of opinion that it can and frequently does occur under certain circumstances

The greatly increased secretion of urine after remaining for a short time in the bath, is a fact not to contest; one, of which, I have repeatedly tested the truth, and which cannot cannot be accounted for, on any other principle than that of cutaneous absorption - And not only is the urinary secretion increased, but the thirst, however urgent at the time of entering the bath, is quickly allayed by it - Moreover the obvious enlargement of the glands of the groin, after keeping the feet immersed in water for a considerable time, an experiment often performed by Mascagni on himself, the readiness with which certain medicines, when externally employed, enter the circulation, and many other facts and arguments, prove, incontestibly, that cutaneous absorption does take place under certain circumstances, To deny its existence indeed, seems to me to deny the evidence of our own senses - Every

Practitioner of Medicine considers it the way by which he introduces some of his most powerful and efficient remedies into the system

Some years ago Dr Mapy clearly proved that if the body be immersed in a decoction of madder, the coloring matter of this substance will be absorbed into the system, and by the use of proper tests can be clearly detected in the Urine – J. Bradner ~~Stewart~~, Dr Thomas Sewall and others have remarked this and similar facts confirmatory of the existence of Cuticular Absorption

According to Dr Barton, frogs, after having been confined for some time in glass vessels perfectly free from ~~atmosphere~~ moisture, become enfeebled, diminished in size, and lose much of their powers of motion; but that upon the introduction of a drop of water into the glass, their usual vigor is quickly restored and they become as plump and full as ever

Some years ago, and shortly after the experiments of Dr Mapy, Dr Rousseau of Phila. instituted a number of experiments, with the view of putting this long-disputed question, if possible, to rest –

From these experiments it appears that Madder and Rhubarb are the only substances, of the great many employed by ~~them~~ him, which have the property of affecting the urine - Moreover it seems that even those substances are absorbed only by certain portions of the body, as the upper and inner portions of the thigh, and the axilla and that portion of the arm immediately below - That when applied either in decoction or poultice or any other form, to the abdomen, back or sides of the body, they produce no change whatever in the Urine

Thus it will be seen that the most discrepant opinions have been given upon this subject, and that the same results have been accounted for on the most contradictory principles. But we here let it rest, confidant in the belief that time and the onward march of Science, which has reigned triumphant from the time of Hippocrates, perpetually unraveling the mysterious truths of nature, will yet enlighten us on this subject, the fruitful source of dispute for so many years past.*

We will now briefly consider the last division of our subject, viz, Cutaneous

* Dr Dunglison of Baltimore & Dr Prout of London, in a certain quantity of his, marked that they have detected a Diminution of Urine & an increase of carbonic acid, in a certain quantity of air, inhaled a bare or an arm has been confined - he supposes that if acids absorption is effected by the Cutaneous

it is in a very imperfect and diminished degree, the Cuticle preventing the same effects in this case - that it does to the absorption of other substances

Transpiration. There is constantly being exhaled from the surface of the body a fine transparent fluid, which, in consequence of its being thrown off in the form of vapor, is invisible. When, however, in consequence of an increase of the secretion, or owing to the humidity of the atmosphere it becomes apparent, upon the surface of the body, it is called sweat. Some Physiologists, indeed, have supposed the matter of sensible and insensible perspiration to be the result of separate and distinct functions, but there seems to be no adequate reason why one should not be considered as an increased degree of the other, with the addition of salts and other matters not evaporable.

Certain parts of the body perspire more freely and readily than others, and the odor of the perspirable matter varies greatly in different parts of the body, and also in the different races of men. Every one is aware of the acid odor exhaled from the feet and armpits, and the rank, alliaceous, and revolting smell which pervades the person of the negro, and which no cleanliness can entirely obviate.

Cutaneous Transpiration has for a long time excited the utmost attention from

Physiologists, and has given rise to numberless experiments, principally for the discovery of the quantity of perspirable matter thrown off in a given space of time. The earliest of these experimenters was ~~Lancisi~~ the zealous and indefatigable Sanctorius. For the space of more than half a life time he weighed daily, with the utmost care and accuracy his liquid and solid ingesta and egesta, so that by comparing them with the loss in the weight of his body, he was enabled to ascertain the loss sustained by the cutaneous and pulmonary exhalations together. So far, however, as the amount of cutaneous exhalations alone was concerned, the labors of Sanctorius were productive of but little benefit, for the great and prominent defect in his experiments, consisted in the fact of his being unable to estimate the loss sustained by cutaneous exhalation without involving that also of the pulmonary organs.

The extraordinary perseverance of this Physiologist, was, nevertheless, ultimately productive of great benefit by giving rise to other and more satisfactory experiments & inquiries.

Lavoisier and Seguin in their celebrated experiments, adopted an arrangement by which,

as they supposed, they were enabled satisfactorily to estimate the the proportion exhaled from the body, as compared with that which takes place from the lungs - Seguin enclosed himself in a bag formed of some substance impermeable to the atmosphere. This bag was fastened above his head, and had an aperture, the edges of which were glued around his mouth, so that the pulmonary exhalation alone escaped into the surrounding air. He weighed himself both before and after the experiment, by a very delicate balance, thus ascertaining the total amount of transpired fluid matter; then by deducting the amount exhaled from the lungs, he obtained the amount of Cutaneous transpiration

From the average of all these experiments and making allowances for accessory circumstances, they estimated the whole amount of insensible transpiration to be 18 ozs. pr. minute, of which 11 ozs. belong to or are sustained by the Cutaneous surface, and 7 ozs. to the pulmonary organs

But, with whatever of dexterity these experiments were conducted, and however commendable the spirit in which they were undertaken, there are, nevertheless many ~~as~~ reasons for believing this

statement to be inaccurate – Indeed it seems to me impossible to establish any conclusive results in regard to a function which is so constantly liable to be influenced by varying circumstances. Many other Physiologists have labored with the view of arriving at something more conclusive in regard to this subject, but the very great discrepancy in their several deductions, may be considered as pretty fair proof of the inaccuracy of each

1843

Remittent Fever

To Samuel Chew M.D.,
Professor of Materia Medica, Therapeutics, and Hygiene,
in the University of Maryland,
These Pages are inscribed, in token of the admiration felt for his ennobling virtues, and of the deep respect entertained for his high literary and scientific attainments,

by his Friend and Pupil,
J. Willard.

[Fever]

1

There is not, perhaps, in the whole range of Medical Science, a subject which has excited more general attention than fever, and concerning which so little, comparatively, is known. Bared, though it has been, to the scrutiny of the most sagacious and acute; probed, as it has been, by the most critical and profound; seamed and surveyed in every aspect, and on every side, by the most accurate and exact; and for a period of more than two thousand years, it continues the theme of philosophic disquisition, with its intimate nature still uncomprehended, and its proximate cause unknown.
"What is fever?", was a question to which the giant energies of Earth's Mightiest have bent; and at that query Genius, now, will droop his head, and feel his vigor damped, as though the high point of his proud aspiring could never be attained.
Of him, then, who makes this his topic no great requirements will be made; for

the crude ideas of a Novice, and his indis=
tinct conceptions, could not be presumed
to afford an explication of those phenom=
ena which have so uniformly baffled the
ingenuity of the most shrewd, and dis=
criminating of every age.
If in the attempt he here makes for the
accomplishment of the object he has in
view, he can but successfully recount the
experience and observations of others, and
deduce for himself those lessons of wisdom,
and practical utility, by an acquaintance
with which he is to combat, and to con=
quer, the rueful ills, and maladies
of Man, then shall he have achiev=
ed all that is to be expected, or asked
of one, so poor in Mind, so indigent in
knowledge, so incapable of properly effect=
ing even the little he has named.

Remittent Fever

Fever, by Nosologists, has been divided into three varieties, and of these the Remittent, it is said, may be regarded as the archetype, since in the course of an Intermittent a perfect apyrexia is found not to occur, and in the Continued form, the watchful and observant can always detect a regular periodical increment and decrement of febrile excitement. Hence Nosological arrangements have been deemed mischievous in their tendency, in consequence of the imaginary boundaries they erect between things of a homogeneous nature. They degrade the human understanding, says Dr Rush, by substituting simple perceptions for its more dignified operations in judgement and reasoning. They gratify indolence in a physician, by fixing his attention upon the name of a disease, and thereby leading him to neglect the varying state of the system. They, moreover, lay a foundation for disputes among physicians, by diverting their attention from the simple, predisposing, and proximate, to the numerous

remote or exciting causes of disease, or their more numerous and complicated effects. To divide Fever into three species, and to subdivide these interminably, while each is marked by the same phenomena, and while, at the same time, the character of one is impressed upon the rest, cannot, indeed, be conceived, in the least degree, to facilitate or lessen the labours of the studious, or to contribute one iota to the simplification of the perplexities in which it is involved. "But be this as it may; let the invention, and bestowment of names upon every varying condition of the same disease, be considered advantageous or prejudicial in effect, it is quite certain that they furnish nothing new, or important, towards the remedial management of the affection, or towards its easy recognition. Bound no longer to error by the indissoluble vinculum of early formed and increasing prejudice; wedded to no sect; hostile, indeed, as well to the assumptions of an arbitrary dogmatism, as to the mere certainties of an irrational empiricism, we see the

Schools aiming only at the exaltation of truth by the propagation of correct principles, and the practitioner relying solely upon close observation, and his powers of induction, for success in the prosecution of Medical science. Go to the bed-side, was the counsel of the illustrious Sydenham, and by the couch where disease shows his pale visage, learn Nature's teachings, and scrutinize her ways; for there, and only there, are taught those great, and salutary lessons, which impart to Man the knowledge requisite for the amelioration and relief of the numberless ills incident to humanity.

To narrate every thing that might be said in connection with Remitting Fever would not only be toilsome in the extreme, but would lead to unending prolixity, and to avoid any thing like unnecessary labour, as well as minute detail, we will consider only its diagnosis, etiology, pathology, and treatment.

First, then, we may ask by what marks and signs we are to distinguish Remitting Fever?

"The close similarity, in fact, the identity of the symptoms of simple Remittent, and Intermittent fevers, has been so universally concurred in by writers, that they are exceedingly difficult of distinguishment. Sometimes, says Shapter, Remittents make their first appearance under the form of a regular tertian ague, and differ so little from it that doubt may be entertained as to their nature, until two or three paroxysms are passed over, when the symptoms, together with the order of their occurrence, sufficiently develop their true character. Indeed, it is doubtful whether they may not be true tertian agues converted under peculiar circumstances into Remittents. Much, however as is the difficulty of discriminating between Intermittent fever, and the more simple forms of the Remittent variety; far as this fact would extend in support of the doctrine of the Unity of fever, and truthful as that doctrine may be; the occurrence of paroxysms which suffer periodical abatement, and increase, without an entire or perfect subsidence of the

febrile phenomena, afford sufficient evidence if not of a specific or distinct disease, at least of its susceptibility to alteration from the active operation of those causes, by which it is generated. Whether or not we regard fevers as the mere modifications of a certain morbid condition, or are inclined to grant to each a separate, and independent existence, easily discernible the one from the other, it cannot be denied that, there are certain symptoms common to them all which prove relationship, if their exact sameness cannot be shown. To enumerate these would be a sufficiently easy task, but inasmuch as no particular good can be accomplished thereby, and as, perhaps, we would be borne beyond our bounds too far, in an attempt to substantiate that which no one will controvert, it will be best to proceed, at once, to the recital of those symptoms, which are present in Remittent Fever. Now what are these symptoms? Those which more usually precede the attack, and constitute the more prominent tokens of its initial stage, are gen=

eral lassitude, and languor; disinclination to muscular exertion; a sense of anxiety; aching pains in the head, back and extremities; slight chills, succeeded by flushes of heat; sighing, and yawning, and a countenance dejected, and sad. Besides these, when the fever is once completely established, we note hurried respiration, and marked derangement of most of the abdominal viscera. This we infer, from the appearance presented by the tongue, which varies from a yellowish white to a brown colour, covered with a thick fur; from the nausea, and bilious vomiting, which often occur; from the existence of pain, and distress, in the epigastric and hypochondriac regions; from the icterode tinge of the conjunctiva; from the thirst, which is more or less urgent; from the dry, rough, and harsh condition of the skin; from the scanty, and high coloured urine voided by the patient, which betokens, if not special disease in those organs, at least a sympathetic derangement of function; and from the inac=

tive, torpid, constipated state of the bowels. In addition to the symptoms we have named, the pulse will be discovered to be full, and frequent, and not so hard or tense, as in active inflammatory affections. "This febrile condition continues for a longer or shorter period, or until the succeeding morning, when a gentle perspiration appears on the superior parts of the body, and occasionally over its whole surface." The patient now, for a time, is relieved from the high morbid excitement under which he laboured, by a very perceptible relaxation of the symptoms which oppressed him, and though not entirely free from fever, is in a great measure exempted from its rage. Presently, however, for this lull is of no long duration, we witness a recurrence of the phenomena mentioned, with perhaps additional violence, and remark the precisely similar progress, and course of this, to the preceding paroxysm. "Thus by alternate exacerbations and remissions, does the fever advance to a termination

in a perfect crisis and convalescence, or assume a more uniform and continued course. Such, then, as has here been briefly described, is simple Remittent; for as has been properly remarked, "No concise definition could be framed, that would comprise all its varieties, since we find their prevailing characters to be greatly modified by the constitution of the atmosphere at the time, and by the habits, and conduct, of the individuals who suffer from the disease, as well as by their peculiarities of constitution; but more especially by peculiarities in the locality, or by particular occurrences affecting it for a season, such as inundations from the sea, or the overflowing of rivers, or untimely rains, and a clouded, foggy, hot and moist atmosphere." But nowhere does Remittent fever wear so violent a form as in the intertropical regions: the tawny resident of the torrid clime softened by the relaxing rays of a too vertical sun, and exposed to the frequent hygrometrical vicissitudes which

there occur, observes the disease in all its Malignity, and with the balmy fragrancy of his groves, snuffs the very vapours of death. The dwarfish occupant of the darksome hovel sunk in the realm of unyielding winter, secure from those causes which beget the devastating pestilence, and fearless of its ravages, seeks but to avoid the rude blasts of a still rude home. The fair inhabitant of the Middle Zone roams in the Mild and genial sunshine of his native Earth, visited it is true, sometimes, by the destroyer, but unoppressed by equatorial sultriness, or arctic algidity, and perfectly safe from the debilitating, and prostrating, effects of either extreme. It is only in hot climates, then, we repeat it, that Remittents are seen in their worst phases, and there from their very commencement do they exhibit a high degree of virulence. The Remittent fever of the Bengal rainy season, is said by Twining, to rank amongst the most formidable diseases of India; whilst it continues, the

patient can scarcely be considered free from danger, although he may not appear to suffer much, and there may be no symptoms of violent reaction. It sometimes happens, that after two or three slight paroxysms, a change for the worse suddenly takes place, without any evident cause, and death follows within an hour. In very severe cases of this kind, after the second or third paroxysm, each decline of the fever, which generally occurs from 12 to about 4 o'clock in the day, is followed by a cold perspiration, prostration, and coldness of surface, attended with a torpid state, and a tendency to stupor in some cases, and extreme apprehension of impending evil in others. At the conclusion of the fourth or fifth paroxysm, and sometimes earlier, some patients continue to become weaker and colder until they die. In the more intense paroxysms of the disease, there are two periods of each paroxysm, which are fraught with danger; one is during the increase of morbid heat, when febrile excitement, and high arterial action,

exist, and there is tendency to fatal congestion and effusion into the encephalon or other important organs; the other is at the conclusion of the paroxysm when morbid excitement and high vascular action have diminished or ceased; when the vessels of the surface are in a state of relaxation, and languor and debility prevail. In some of these cases, the patient sinks gradually into a state which bears some resemblance to the collapse that succeeds to the low form of cholera, and to syncope; and the coldness persists until the patient dies. This disease, that is, the Malignant Remittent, occurring in the marshy districts of hot climates, is nowhere better described than in Professor Eberle's work on the Practice of Medicine. Remittents of this violent grade, says he, generally make their attacks suddenly, and with great impetuosity. The cold stage is short and not very severe. The febrile heat soon predominates and rises rapidly to a state of great intensity — and is attended with tormenting thirst, violent headache, excruciating

pains in the loins and inferior extremities, great anxiety of feeling, and difficulty of breathing, with nausea, and a distressing sense of weight and fullness in the stomach. These symptoms continue for about twenty-four hours, when a remission always very considerable takes place, frequently amounting almost to a perfect intermission. This calm, however, is but transient. A second paroxysm soon ensues more violent and alarming than the first. The eyes now become yellow, watery, and red; the oppression and anxiety in the epigastrium is extremely distressing, and a deadly sickness, with constant vomiting, or retching, torments the patient. After the lapse of some time these violent symptoms again abate, and a clammy perspiration appears on the surface of the body. During the first two paroxysms the bowels are generally torpid. In this way, the paroxysms continue to recur until either a salutary crisis or death takes place, one or the other of which not unfrequently happens in the third paroxysm. If the disease runs on beyond the

fifth or sixth paroxysm, very great prostration ensues; the remissions become less distinct; delirium almost constantly attends; and the skin acquires either that peculiar stinging heat called calor mordax, or becomes cool and cadaverous to the touch. The pulse, in cases of this kind, frequently differs but little from its natural state; more commonly, however, it becomes quick, irregular and frequent. In this aggravated and protracted state of the disease, various other symptoms usually occur, in addition to those already mentioned, indicative of the fatal malignity of the malady. The lips become swollen, and of a livid or purple hue; the tongue dark brown, or black - foetid and clammy; the eyes red and watery, or quite dry; the urine dark brown, offensive, or entirely suppressed; the alvine discharges reddish and watery, or black, bloody, and colliquative, attended generally with a tympanitic state of the abdomen; and petechia and haemorrhages occasionally occur in the last stage of the disease.

Such as we have quoted is Malignant Remittent, but other divisions founded upon certain organic derangements, which impress a peculiar stamp or character on the disease, are authorized, it is thought, and hence we find the terms gastric and hepatic remittents, as indicative of the functional embarrassment of those organs. But from the discussion of such points, which are of questionable propriety, and from the consideration of a thousand other trivial and unessential topics, let us turn to one of much more moment. I mean an inquiry into the causes which give origin to the disease.

Causes.— Of the proximate cause of Fever little, perhaps nothing, is definitely known, for the obscurity which enshrouds many of the operations of the animal oeconomy renders the views entertained on this subject purely hypothetical. The many theories, ingeniously devised, purporting to explain the phenomena of fever, and account for their occurrence, can be regarded as nothing more than theories, until sub-

sequent discoveries shall prove them facts. Until the exact relationship of every part to all others of the human organism, and the offices performed by that part, be laid open to Man's comprehension, the opinions he may hold, and express, concerning it, can be regarded nothing more than conjectural. It would, indeed, be idle to name, without even stating their diversities, the many speculative notions which for a time had being, and were cherished by the great, because no nice dissertation on fevers is intended, and furthermore, because their rehearsal without the addition of some thing new would, most assuredly, demand such an expenditure of time as could not be granted, and would at last fail to please or instruct, or enlighten, or inform.

But notwithstanding all this; though the proximate cause of fever be veiled with a mystic drapery which occludes it from our sight, and makes it impenetrable to human ken; though Genius here be purblind, and Man, proud as he ever is of those high attributes which tell of his descent,

humbly own his impotence and feel himself abashed, still there are causes more remote which are productive of disease, whose existence he can ascertain by the employment of those faculties he possesses. Now what is the remote or exciting cause of Remittent Fever? Taught by him, whose voice once uttered the sacred oracles issuing from Hygeia's fane, (but which now no more is heard, nor shall be forever, for he has risen to the bright sky), to regard Malaria as the great exciting cause of febrile affections, we cannot contemn his words, or impute fallacy to them. But they have been disputed; the existence of Malaria has been denied; and the supporters of this doctrine, it is said, by their inability to prove the positions they have assumed, have become entangled in such a tissue of error and absurdity that extrication is impossible. Now how is this? The constant failure of every effort made to identify Malaria by analytic research, proves indeed Man's limited capacities and the scantiness of his acquirements; and nothing more; for no one can be found of so much hardihood

as to assert the non-entity of that, whose being he cannot accurately understand, or whose properties he is unable satisfactorily to demonstrate. No, No; Man is not clothed with the investments of Deity; he may scrutinize but he cannot discern with the vision of the All-Seeing; he may ponder, and be wise, but his is not the knowledge of the Omniscient; he may speak, but his is not the voice of the Thunderer; Mortality is frail, and on Man's brow, and in his heart, are seen and felt the striking evidences of this humiliating verity. But is there such a noxious principle as Malaria, on exposure to which, a body hitherto healthy will undergo changes and exhibit such deviations from a sane condition, as are characteristic of disease? Much has been written to show the deleterious qualities of this morbific agent, and if the concurrence of the vast Majority of the profession be thought decisive of any question mooted, surely this is placed forever at rest, since in the stories of an ancient Mythology we find characters typical of its extreme pernicionsnesp, and

now, by the observation and experience of present times we have a confirmation of those facts represented by fabulous images. Malaria, or Miasmata, are the products of decaying Matter acted upon by heat and Moisture. It is true that the air of Marshes, which contains the baleful particles of the poison, differs Nothing in Chemical constitution from that of pure localities; but it is likewise true that the inhabitants of Marshy districts are perpetually suffering from the deteriorated atmosphere in which they live. It is there, where these pestiferous ephalations are Most abundant that diseases of the Most destructive grades are found to prevail; hence we are to consider those circumstances, or physical conditions, favourable to the evolution of Malaria as the Most important Modifying incident influencing disease. That Miasmata are hurtful to animal life, and that they proceed from Matter during its decomposition, receives support from the experiments Made by Gaspard and Majendie, to which we need only refer.

Pathological Characters. "The post-mortem appearances discoverable on dissection are said to be various, though for the most part, the most essential lesions are found in the liver, and alimentary canal, and sometimes in the brain." By Stewardson of Philadelphia, in the examination of those who died under his charge, lesions of the spleen and liver were detected in every case, and development of the glands of Brunner in the duodenum; and he considers that their frequent enlargement and uniform distinctness constituted a striking peculiarity of the disease: the stomach likewise was very frequently inflamed. In the Remittents of India, examination after death, says "Irving, shows, that they are almost invariably connected with local hyperaemia, which often runs rapidly into inflammation, attended with much interstitial effusion." The seat of these local affections is principally the stomach, intestines, cellular structure about the duodenum, and at the root of the meso-colon,

especially where it passes across the spine: the principal disease is likewise often found in the spleen, liver, brain or lungs. There is a great difference in the relative degree to which the local affection extends. Sometimes, the brain and stomach seem to be almost exclusively affected; in other cases, the spleen intestines and lungs; and in others, the liver. Such are the main appearances revealed by the knife of the morbid anatomist; but it is obvious they must differ, says Professor Dunglison, almost ad infinitum. In a disease attended with so much irregularity of the functions of innervation and circulation, and implicating the general system, there is scarcely an organ which may not give evidences of hyperaemia, if not of active inflammation.

Treatment... In the treatment of any disease the first question is, how shall the most prominent indications requiring fulfillment be met; or what shall be done for the relief of the more urgent and distressing

symptoms presenting themselves? Now what are these indications? To moderate the high febrile excitement; to evacuate the alimentary of whatever irritating secretions it may contain; and to obviate the irritation excited in the intestinal passage by the contents it held, while we aim at the restoration of the liver, and other deranged viscera, to their primitive condition of health. Now how are these things to be accomplished? In the catalogue of remedial agents, we may say, that blood-letting stands first. It is no doubt true, that the simple Remittents which abound at certain periods in peculiar situations, can be, and frequently are, brought to a happy termination, without the abstraction of the least portion of blood either locally, or generally, and granting this, the value of the lancet suffers no impairment, for by its employment even in such cases the disease not only readily yields, but yields with more promptitude, perhaps; we will not, however,

maintain the indiscriminate use of the lancet, or advocate the necessity of blood-letting in every case that may come under our cognizance, because simply it is febrile, but looking carefully to the state of the pulse, we should be guided solely by its condition, and by it determine at once the propriety of the adoption or rejection of the curative measure we have named.

Regarding the utility of emetics in the treatment of Remittent fever much discrepancy of opinion holds, but when the disease is in its simplest form, when there is no active inflammatory action in any organ, or where the irritation of the gastro-intestinal mucous membrane is not excessive, emetics or emetico-cathartics may produce decided good results. But where the disease wears an aggravated expression, where it is malignant, nothing could be more plainly contra-indicated, or could eventuate more disastrously to the patient, than the administration of remedies so harsh and violent in their char-

acter, as those under consideration.
No matter what may be thought of the propriety of administering emetics in this disease, no doubt can be cherished of importance of purgatives in its remedial management.
In all instances the bowels should be early and thoroughly purged, and to effect this purpose a combination of Calomel and jalap has usually been resorted to. Having emptied the bowels well, writes Professor Eberle, by a brisk cathartic in the onset of the disease, recourse must be next had to such remedies as are calculated to restore the healthy functions of the liver, alimentary canal, and skin, and to moderate the general febrile excitement, and obviate or remove the local congestions or inflammations, that may supervene.
But in the disease as it occurs in hot climates and in paludal districts, which has been termed malignant, after blood-letting has been carried to the extent indicated, and the gastric irritability subdued, in nothing can we place so much reliance as in the judicious

employment of calomel. The liver in this violent grade of the disease is generally congested, torpid, or otherwise deranged to a very great degree; and our remediate efforts must be particularly directed to this viscus. Mercurial preparations should be given largely and freely until a decided impression is made upon the system. From ten to twenty grains should be administered every four or five hours, until the gums begin to show its influence, or until the evacuations become conspicuously bilious. While we thus endeavour to produce a general mercurial action, and especially to restore the regular functions of the biliary organs, the bowels should be kept freely moved by additional aperients, if the calomel do not produce this effect by itself. If the bowels be not freely evacuated by the first two doses of calomel, an additional purgative ought to be administered. For this purpose the neutral salts, or the compound extract of colocynth will generally answer very well. In general, however, the very active purgatives will be less

beneficial or proper than the milder ones. Indeed so long as the liver remains inactive and engorged, it will rarely be advisable to repeat even the purgatives mentioned. After the first efficient mild purge, it will be generally much the best plan to keep the bowels open by laxative enemata, and the use of tamarind water, or the Seidlitz powders. When the liver begins to act, and to pour its dark bile into the bowels, laxatives of a more active character become indispensable. In cases attended with a distressing sense of sickness, accompanied with soreness in the epigastrium, leeching succeeded by a large blister over this region, will often afford much relief. Experience does not offer much however, in favor of the employment of blisters as a general remedy, either in this or the more mild variety of the disease. The affusion of cold water, or sponging the surface of the body, has been spoken of as highly useful in the treatment of Remittents, and deservedly; for independently of the pleasurable sen=

sations it creates by the reduction of morbid temperature, the skin is invited to the general operation of its healthy functions by the calming agency it exerts. Cold affusions are, however, not always eligible, for in those cases of marked congestion of internal organs, they might produce irretrievable mischief by increasing the engorgement of vessels within, when the powers of life are too prostrate to react. In such cases tepid ablutions may be had recourse to with decided advantage.

Touching the usefulness of diaphoretics and tonics in the treatment of Remittent fever little will suffice, for at the best they can be considered only secondary remedies, applicable to certain conditions of disease; these conditions will be pointed out by circumstances, and recognised by the discrimination of the physician.

1843

An Inaugural Dissertation
on
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Submitted
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By
James B. Markham
of
Greensboro
Alabama

There is perhaps no branch of a practicable science which has elicited so much discussion as the subject of Fever — It has ever been the hydra terrifying our race, and baffling both in doctrine and practice the succeeding generations of Medical Philosophers — One contends that a Bilious diathesis is necessary to render the individual susceptible to its ravages, and therefore to be treated almost exclusively with mercurials — Indeed they think the only cure is Salivation, in order to stimulate the lazy liver to its proper action, such is the error into which they have fallen with regard to the use of this article, that it will according to their ideas act upon this organ either as a stimulous or sedative, increase or retard action, by which practice thousands have been floated to their graves, by the stream of Saliva which has proceeded from their own mouths — Others not differing as to the character and treatment of this disease, have added to it a something more specific — These require a miasmatic effluvia to engage the Bilious diathesis in order to render this organic derangement effectual in producing these Intermittent and remittant types

of disease — It is not however my object to write a history of the progress the profession has made in this disease — but to give a plain and simple narrative of my own views, of the cause, nature and treatment of the Autumnal Intermittent and Remittant Fevers as they occur in the climate of Alabama —

I believe the profession has been led into errors upon this subject, by two causes — First, the vast multitudes of the human family who are yearly swept off by its ravages, giving to it a terrible aspect, well calculated to produce alarm — Secondly, they have sought out a mysterious cause, and of necessity the effect must be equally mysterious — and thus alarmed they have been grappling with shadows —

The common name by which this disease has been handed down to us is Billious Fever, than which nothing can be more inappropriate, for it is now universally admitted that this disease might with equal propriety be called any thing else — The terms Intermittent and Remittant are much more appropriate —

When we look abroad into the vast field of disease which is ever preying upon the human family, and

discover the great majority of this, over every other disease, it is enough to stimulate the humane and scientific, to exert himself, to find if possible a cure for or a relief from so formidable an enemy both to our species and our art —

In commencing a work of such vital importance it becomes all as sound Philosophers to tread only upon ground which is demonstrable and never to give plain reality, though dressed in homely garb, for conjecture however plausible soever it may seem — Though facts may travel slowly in the developments of causes, yet when she establishes herself, truth will ever abide, whilst conjecture, will live only when protected from the eye of scrutiny, by the garment of fine spun theory —

With these few preliminary remarks, I will proceed to the consideration of the cause of this peculiar order of Fever, to be practicable is my object, and if generally there was less display, and a more earnest desire simply to record facts, we should not so frequently, have the young and inexperienced, hatting and confused, by the elegant and abstruse views of opposing authors —

For a long series of years this disease has been ascribed to the effluvia arising from the decomposition of organic

substances — Some have contended that the decomposition of animal and vegitable matter were both productive of this effluvia, others contend that it arises from vegitable matter only — And notwithstanding the fact, that in no place, nor under any circumstances however favorable for the evolution of this destructive agent, though the effects may be spread thick around them, have they been enabled, by the closest scrutiny to discover any traces of the hidden depredator, some by the impress of his ruthless grasp upon human health — Yet its advocates have gone so far as to describe the form of its existance its specific gravity &c. and being heavier than atmospheric air is made to float during the day upon the aqueous vapour above our heads, but is sure to pay our habitation a visit as darkness encircles it — If there is any point at which human genious has exhausted its powers of invention, with desire to establish an assumed position, it is here — Nor have they been entirely unsuccessfull, but whilst they are daily cheered by the applause of their disciples and fellow labourers, I conceive them to be as far from truth as when they commenced their arduous toils — This acclimation is not proof to me at least

for why should I be influenced by the united opinion of the world, when the monitor within, Reason is not appeased much less when he points to an agent of equal, yea more wide spread and almost over ruling power —

The doctrine which seems to me demonstrable as a substitute for that of Malarious effluvia, is that of vicissitudes of temperature, which with imprudence and irregularities of diet, will be found sufficient to account for every case of this disease — If it can be proven to the satisfaction of all, that this cause is capable of producing the most serious effects upon the health of the system under certain circumstances — and then prove that the predisposing cause of this disease, does produce a state of the system, similar to the one upon which we have agreed — then I think honest judgment will decide with me against the hypothetical doctrine of Malaria as a cause —

In order to get upon a train of facts let us institute an enquiry — is it not perilous in the extreme for an individual who is feeble to expose himself to sudden changes of temperature, most especially from a warm to a cold atmosphere? And why?

Because of the powerfull influence which such a change is known to exercise upon the nervous and capilary systems of the human body — which under these circumstances are easily deranged, and when once known from their ballance, none can tell to what extremes their trembling powers may be driven — Can not so feeble would not have so strong an impression made upon his health, it would require an increased degree of exposure to produce upon him the same effect — Prof: Dunglison in his work on Hygiene, speaking upon this subject, re= lates the case of a Physician who the day after he had been freely purged, exposed himself to an atmos= phere twenty nine degrees lower than the one from which he passed, which was followed by death on the day following — "Such cases" says the Prof: are not singular, they are of daily occurrence, and the observation of every experienced individual could enable him to adduce many of a similar kind —

It seems indeed insulting the good sense of the profes= sion to adduce any proof upon this subject — or even to discuss it — Do not all admit the efficacy of this cause during the winter and spring, in producing

almost every order of inflammatory disease — and why should it be null and void during the milder seasons — because forsooth the diseases are milder and more abundant, is not this as it should be — Lime we are apt to have genuine inflammation set up on an enfeebled constitution as the effect of a feeble cause, as where functional derangement? Thus when the system is reduced by the heat of summer and the changes are not so great, are we not more apt to have only the functional play of organs deranged, (which I conceive to be the true pathology of the disease under discussion) than when by the bracing season of winter, the vigour has been renewed, and the changes of temperature are extreme, when from experience we may expect the same organs to be thrown into an inflammatory disorganisation —

If then a sudden change of temperature from warm to cold is acknowledged to affect most seriously the invalid and enfeebled — and it be admitted (as it must be) that the same sun of a warm climate does produce this enfeebled condition — then I ask what need have we for a more

powerfull agent of disease, than is here produced by natural causes —

But I may be told that the summers of warm climates are not attended with these vicissitudes, here I would prefer to differ at least in a degree and if I did not find the thermometer showing so great a variation, I would find collateral circumstances, most reasonably compensating — We will for the purpose of having this more thoroughly understood, consider the habits of the different orders of society as they exist in warm latitudes

The labourer not only has his general vigour reduced by the labours of the season, but frequently undergoes exposure to the night air, with his clothes saturated with sweat, if he continues to exercise even moderately under these circumstances, untill he shall retire to bed, no evil is apt to accrue — But we often find them in this condition, going to sleep out of doors, on the ground, and in fact taking no care to avoid this fruitfull source of disease That class of the community who do not labour or who labour under shelter, undergo the same order of exposure — They are also more susceptible

to the influence of the sun rays to which they find it necessary, in the progress either of pleasure or business to expose themselves occasionally – the evils of which is not denied by any – The higher classes suffer also from the greater indulgence in the pleasures of the table – Their digestive powers having been reduced in their energies, with the rest of the body, refused to perform the task imposed upon them, and this added to the debilitating effects of the season is very apt to bring on such a derangement of the general system as shall end in fever – I have also known this disease to be produced by a sudden exposure to a strong draft of air when the individual was highly heated, thus affecting very suddenly a great change in the temperature of the body –

These changes are often productive of fever without any regard to moisture, which is supposed to be necessary in the production of Malaria. But should the locality be a very humid one, it is necessarily productive of these effects in a much higher degree – The aqueous vapour being greatly increased during the day, must necessarily chill the air more rapidly during the night – Therefore individuals

residing in a low and damp region, must undergo greater vicissitudes — This evaporation during the day and rapid condensation at night must exercise a double influence — If it does not increase the thermometric temperature during the day, it does in a great degree increase the amount of animal heat within the human body — for it is an undeniable fact that the cooling process, is in proportion to the evaporation which is going on upon the surface. Thus if an individual perspires freely, he will have a more active evaporation kept up, which will greatly add to his comfort — The same Author from whom the Rose previously quoted says "if the air be greatly charged with moisture, especially during the heat of summer, owing to a diminution of cutaneous and pulmonary transpiration, the evaporation of which constitutes a cooling process — we feel languid and listless, with an indisposition to every mental or corporeal exertion —" If this as seems to be the case, that this humidity does prevent the evaporation from the surface of the human body, it must indirectly at least serve during the day to elevate the temperature of said body, and then at night

serve more rapidly to reduce it, the effect upon the health must be apparent to all — It would then require more prudence in labours and exposure on the part of those residing in such an atmosphere, to enjoy the same health, as others living in a dryer situation — Have we the evidence of any such prudence? we say no, because it is in just such situations, you see the disease spreading his most destructive ravages —

However powerfull an agent humidity may be in affecting the visits of this fell destroyer — I conceive it only succeeds by producing those extremes of the temperature — which may be effected by other causes, as I have before said, a brisk wind allowed to play upon the body when heated, will very suddenly atchieve the same end — And thus I would settle the question which has been so long and unsatisfactorily discussed, as to the relative healthiness of a low or very elevated situation — Both are decidedly unhealthy owing to the changes which must take place in the temperature of the system at each, produced by a different process — Moisture is the active agent in one and a brisk wind in the other, as every body knows

an elevated situation is most generally surrounded by a good draft of wind —

If after what I have said by way of illustrating this subject there should be a doubt in the mind of the reader as to the reasonableness of this doctrine, and he should be disposed to examine more fully into the nature of the case, I would introduce him to the works of Dr. Jno Eberle on Theory & Practice, where he has in the beginning of that work devoted several of the first chapters to the consideration of the causes and character of Fever — his remarks are copious & with one exception, satisfactory — after most satisfactorily ascribing the production of fever to the vicissitudes of temperature, he performs a work of supererogation and labouring to ascribe it to the hypothetical cause of Miasmatic effluvia —

After what I have said upon this subject I hardly consider it necessary to say that I consider the heat of the season to be the predisposing cause and the vicissitudes the exciting —

The general symptoms of this disease are too well understood to require a recapitulation, they can be clearly seen in any of the many excellent works extant upon practice — In discussing the Pathology of this disease I shall make two distinct and opposite conditions I consider the disease in its onset to be purely idiopathic and independent of any local inflamations — Having stated the cause as operating primarily upon the nerves and capilary systems, producing deranged action first in these agents and rapidly extending throughout the entire organization, would induce me to incline to the opinion, that the early and alternate stage of this disease was nothing more than functional, derangement with high order of general and local irritation accompanied with increase of the circulation which might run into inflamation, when the febrile symptoms will be constant, rather than remitting — This I should consider the second stage of the disease attended with a difference in the Pathological condition of the system, which when once set in is apt to terminate fatally, or be much slower in convalescence — The alternate rise and fall of fever in this disease, does indicate a want of the

powerfull and abiding stimulous which inflamma=
tion is always want to effect — Though this form of disease
may be, as it generally is instituted by a chill, yet it is known
that when it has once kindled its flame, it continues to
burn untill it is conquered, or has consumed the organ
in which was located, with but very slight variation
except such as is dependant upon the various stages
through which it has to pass — These are well unde=
stood and it does not come within the scope of this
paper to consider them —

It is impossible to say how long this plag of derange=
ments of the functions may continue before inflamation
shall supervene — This will depend in a great degree
upon the character of the attack, and the constitution
suffering — a mild attack upon a vigorous constitu=
tion may not run into such a state at all, though
unaided — whilst if any organ be predisposed to
inflamation, that action may very speedily be
set up within such an organ —

The mode which in the general ~~is~~ the proper
one by which to judge of the pathology of the disease
which has destroyed life — will not enable you to
pronounce upon the early stage of the disease which

has proven fatal, for though inflammation may have been present in the ~~latter~~ stage who can say that it was in the earlier date of the attack — I conceive the nervous will be prominent of this disease which often terminates both in inflammation and death when we come to judge of this matter as the signs may be given off by that course of treatment which has not only been found successfull, but which is most highly extolled by those who have tested its virtues —

The practice which has been referred to, is the administering large doses of quinine in this disease regardless of the state of the pulse or skin with great success — should I think go far in proof of the pathology of this disease, though they may contend that this drug is a sedative, which I cannot admit, for I have in the early part of this paper shown proof to the contrary —

An other very satisfactory evidence that the onset of this disease is mere functional derangement is the fact, that if it is not arrested during its alternations, it will assume a continued type, then it is very reasonable to infer that permanent

lesion is about to take — But how long before this state may occur I would again say is very uncertain — The older authors conceived that the number seven, had a very close connexion with all disease which is doubtlessly without foundation, and is nothing more than a relic of a still older superstition which prevailed among every order of society, this number very early in the history of man obtained high veneration —

There is an occasional form of this disease, which merits serious attention — Not however so much from the obscurity in which it is involved, as from its speedy and serious issue, and its true character being so frequently misunderstood — under such circumstances it has generally proven fatal — I refer to that state of collapse which may take place after the first, second or any subsequent stage of reaction — It is attended with great or entire prostration of all the functions of the animal economy — Sleep is constant and of a comatose character, every want has vanished, save an occasional demand for water, the skin is cold, relaxed and bedewed with a profuse exudation of cold, clammy sweat, and great oppression in the precordial region, with dyspnea —

The question arises, what is the true pathology which has induced this frightfull class of symptoms, which have been so misunderstood, and of consequence have proven so generally fatal — Some of the practioners of respectability of the south, have supposed, from its being frequently preceded by copious vomiting or purging or both, that it resulted from inflamation of the mucous lining of the stomach and bowells, and have consequently adopted a corresponding course of practice — The use of the lancet, calomel and the depletants, have however most satisfactorily proven, by the speedy and fatal termination of the case, this view to be erroneous — Others have considered it only a sudden sinking of the vital energies, caused generally by some sudden and strong depletory process, in which the large vessels about the heart are engorged, and the visatergo unable to retrieve them — I have known it to occur from great mental depression —

To give an epitome of my views of the pathology of this disease, I would say that in the majority of instances it is purely idiopathic, and consisting simply in a derangement of the nervous and circulatory apparatus, attended at different times with any or all the symptoms

of irritation which might be expected to accompany the deranged action of these agents — I shall not stop to determine which of these tissues precede the other in the development of morbid action — it is suffi=cient for my purpose that they do mutually react upon each other — Which may end in restoration to health, total prostration, as in collapse, or in decided inflamation which will always be seated in that organ which happens to be most disposed to such an action —

Having now passed to the third division of my subject, I shall necessarily derive much aid in the treatment, from having due regard to the cause and pathology of the disease — And whilst I shall not concieve it necessary to deviate radically from the mode of treatment as generally prescribed by modern authors, I shall order slight modofica=tions — Thus all concieve the use of quinine in this disease — But those who look upon it as an inflamatory affection, withhold the use of this arti=cle untill such symptoms have been subdued — others with less discrimination, but with greater success use it freely in all stages of this disease without

regard to the state of the skin or pulse, with according to their report (which I am disposed to credit) marked success — Dr. Perrine has published a paper in the use of quinine in Intermittent Fevers, in the Phil. Med. and Phys. Journal Vol XI page 250 in which he speaks of that preparation as a good diaphoretic, equal to James' powder, and declares that it may and ought to be given in all stages of the fever without any regard to the state of the pulse or skin in doses of ten grains — and Dr. D. Drake of Cincinnati represents it as a narcotic sedative —

It is most undeniably certain, that when properly administered a powerfull diaphoretic, but I conceive the tonic powers of this article too well attested for the opposite doctrine to gain a moments admission It is also true that it does have a sedative influence upon the irritative and ranging pulse of a fever patient when administered during the remissions But as fully persuaded am I of the pathology of this disease, that I do not hesitate to believe it is capable of exercising the good effects ascribed to it under the circumstances recommended by Dr. Perrine — I do not however consider his course as the most

judicious or comfortable mode of treatment — for when adopted you are apt to have the desired dia=phoresis preceded by an augmentation of all the painfull symptoms of the disease untill the sweating shall have been well established — Reasoning how=ever from the fact which is advanced by Dr. Pennine I would gain support as to the doctrine of the pathology of this disease for which I now been contending — Suppose these gentlemen were to presume upon the diaphoretic or sedative effect of this article, and administer it in any of those dis=eases which are known to be inflamatory, would they then have evidence of any such happy effect Again, how has this article obtained so high (and deservedly too) a character, in arresting the destruc=tive process of sloughing, if it be only a sedative and diaphoretic agent — does the pulse in this af=fection require to be sustained or reduced — I leave the reader to determine —

After this discussion upon the therapeutic agency of quinine, one of the most important ar=ticles in the treatment of this fever, I will pro=ceed to a detailed account of that course of treatment

which I have found to be universally correct, and which too is suggested by a knowledge of the disease

When you approach a case during the incubation you will find the pulse full, strong and hurried, the skin hot. and dry — agonising pain either in the back, bowells or head, sometimes in all — The bowells and all other emunctories will be arrested, accompanied with general sufferings most intense — According to the views of Dr Eberle this condition may continue an indefinite period, 12. 24. or even 48 hours undisturbed regardless of your most vigilant efforts

This I have not found to be the case, nor do I consider it to be probable, when the proper plan of treatment is adopted — What then would be asked is the proper treatment to be adopted under such circumstances. I should first seek to lessen the amount of circulating fluid by bloodletting, followed immediately by the only direct sedative, a stream of cold water to the head, which will be found a most agreeable application, accompanied with a free use of sponges dipped in the same fluid to the whole body — This treatment should be continued, without regard to time untill the pulse and general temperature indi=

=cate its discontinuance — I have continued this applica=
=tion for twelve hours uninterruptedly with the happiest effect — I consider cool spring or well water for superior to ice or its water, either of the two last, will produce a painfull sensation and cannot be continued long at a time, and when you cease without having controlled the pulse, the reaction will be vigorous in proportion to the distress produced by the agent applied — I would prefer water decidedly warm to either of them in any febrile movement — the cold water will rapidly carry off the excess or confined caloric and will prove an agreeable agent, so long as the ne=cessity for its use is indicated — It is only necessary for an individual to know this agent applied in one such attack, to desire it in every subsequent one — When I have thus sufficiently reduced the pulse and temperature — I proceed immediately to immerse the feet and legs in a tub of warm water placed at the foot of the bed, covering it over with the patients bed clothes — I then apply a mustard poultice as hot as can be borne with comfort to any point where pain may be present, excepting

the head, the patient is then covered up to his neck with a light sheet, means to protect him from the air — I then administer a copious draft of tea, kind immaterial, only taking care to have it as hot as it can be sipped, I generally use sage balm or mint, indeed I allow the individual to choose, this is to be repeated as often as the stomach will receive it untill he has commenced a free perspiration — This process will rarely fail if properly managed to arrest the paroxism and usher in that favorable condition accompanied with sweating, which is to be sustained by the tea and other diaphoretic medicines, after this stage shall have been well established, you should if necessary administer a cathartic composed of 5 grs Calomel 10 grs Rhubarb and 5 grs Jalap, and simultaneously commence the use of quinine in two grain doses, repeated every half hour untill you have administered four doses when a cathartic enema should be administered in order to secure the speedy and certain action of the purge, you should not suffer more than two free evacuations from the bowells continuing the quinine untill its effect is manifest

when it should be given at longer intervals, with a desire to maintain its action for the next twenty four hours, when you may generally dismiss your patient with instructions to use a few grains of quinine each morning for a few days —

This rapid and speedy convalescence will not always occur, for several reasons, in the first place, your orders will not always be carried out, which will prolong and complicate the treatment — and it is not every case which will present this simple pathology it may be complicated with an inflamitory condition of the Brain, stomach, or bowells — the Kidneys are also frequently severely implicated, when you will not be able by the remedies heretofore suggested to bring the febrile disposition of the system so early under your influence, and in these cases it is found that the heroic tonic will not be tolerated, for which you will have to ~~tolerate~~ substitute the lancet, calomel and their accompanying depletants — their relations being well described in almost every book on practice, I shall not recapitulate — These complications I consider but the exceptions to the general character of the fevers of the climate of Alabama, they are always to be

ascribed to the peculiar susceptability of the affected or
=gan to take on such disease — and not as the advo=
cates for the doctrine of Malaria contend to the pecu=
=liar character or concentration of the evolved poison

The congestive type of this disease, which has been
previously spoken of as a stage ~~which~~ merits some
attention — Its true character has been greatly mis
=understood — and though but a stage occasionally
presenting itself, has been honoured as a distinctive
order of fever, the Congestive fever is one which
carries terror to the inhabitants of a southern lat
=itude, and often shields the unsuccessfull physi=
cian from the reproaches of his employers, for
if their patient dies it is under the terrors of this re
=lentless disease they take shelter, and with one
consent all unite to excuse the poor Dr — In this
manner many either compromise their integrity
or are ignorant of the true character of the dis
=ease with which their patient has suffered —

Unlike every other order of fever, if such it be
there are no symptoms particularly which force
it so as to admonish you of its character, but falls
unsuspected, whilst you may be congratulating

yourself and your patient that he is doing well, you administer a purge which is indicated, you bleed and turn your back thinking all doing well, the bowells run off from the cathartic into watery stools and on your next visit you find to your astonishment that coma or a state approaching it has seized your patient - or some serious mental depression has been operating upon your patient, from all of which causes I have seen it proceed - The condition is so indicative of the pathology that I deem the treatment to be similar regardless of the cause - I will give a few cases as illustrative of the treatment necessary to be adopted - This is one of those conditions in which you have to be prompt and energetic or your remedies will come too late - During the fall of 1841 I was called to see an old man possessed of vigorous constitution, who had been sick with an ordinary attack of Remittent fever for six or eight days - he had been treated by a neighbour with cathartics, diluents &c, when I reached him which was just at night, I found him in a comatose sleep, feet and hand cold, skin

also cold and bedewed with a profuse cold clammy sweat pulse feeble contracted and quick – I applied blisters to his legs and arms, gave him quinine in 5 gr doses accompanied with an equal quantity of Cayenne pepper repeated every half hour, I instituted friction freely over the whole body with cloths wrung out of a hot mixture of whiskey and red pepper which was continued for five hours, when he revived, the blisters having drawn were removed, the perspiration becoming natural friction was discontinued, & the quinine given at longer intervals without the pepper continued for twenty four hours with the happiest results –

Case the 2nd was a man thirty five, remarkably healthy and vigorous constitution – I was called the first day of his attack, when I reached him his fever was subsiding, he was enjoying a fine perspiration and having taken 15 grs of blue mass before he knew that it was the fever that had taken hold of him – I gave directions to ensure the action of the medicine of morning with oil if it was requisite, and if without fever to make free use of quinine – Morning came –

his bowells had not been moved, but hoped they soon would be without the prescribed dose, he used the quinine, and as evening drew on he felt worse, no operation as yet, head greatly confused — I was again called procured an evacuation by the aid on an enema which was copious and satisfactory, head still disturbed with a strong pulse I bid him freely with entire relief, he slept well, and perspired freely, as morning approached his sleep became more profound, perspiration more profuse, he soon became difficult to rouse, I immediatly saw with what I had to deal, gave the 5 gr doses of quinine and pepper, applyed flying mustard plasters, which in a few hours had the effect desired and my patient being continued upon quinine alone made a rapid recovery — one thing here merits a remark if your patient will bear quinine and you allow him to be brought under its influence he will scarcely ever have a recurrence of fever during that attack, and if you will keep him upon a few grains daily, it will greatly guard him from a relapse —

I could go on to add many other cases, but these I consider sufficient my only object being to illustrate the peculiar condition which by some have been represented as being inflammatory, but which I look upon as only great depression of the vital energies as the success of the practice based upon that view corroborates whilst a different course of practice in the hands of the opposite doctrinists has proven fatal to their patients and discomforting to the practitioner —

I would here remark that if I was asked which I conceived to be the most efficient agents in the treatment of summer and autumnal fevers I would most unhesitatingly say cold water and quinine —

I cannot resist this favourable opportunity of saying something in favour of southern practice as related to the treatment of this disease with the preparations of mercury I have already in the beginning of this paper hinted the subject, but as the south has been greatly misrepresented on this subject I shall be pardoned for the digression if such it should be considered —

The idea has become extensively current that

this article is peculiarly indicated in all febrile diseases of southern lattitudes, It has also been most untruly and disrespectfully circulated upon the authority of the venerable and learned Professor of Theory and Practice of the Penn. University that this practice is carried to a criminal extent by southern Physicians, true there are some there who have been taught by the gentleman himself who remain zealous advocates of the article — But I can say in truth that with the larger part of the Physicians of the south, they abhor and avoid the poisonous effect of this drug, whilst they cannot discard so valuable an agent from their shops — They have long since seen the evil effects of a blind and free use of the article —

The idea that more of this article is demanded in warm lattitudes, than farther north is I believe based in error, and it is not at all surprising that for a time it should have been carried too far when the doctrine had been advanced and sustained by such distinguished names, as those who have practiced in the British Indies — But the free men of the south of our own happy and free

union have dared to think for themselves.—

The ground upon which this article has been so truly abused is that the remittant and intermittant were Bilious fevers, resulting from a Billiary derangement, this however is or should be discarded, who ever knew the liver or any other gland in the human body when not structurally impaired, to refuse to act its part. when the skin was performing its healthfull agency, this is the most extensive emunctory of the human body and it is evident that if this is in health, it will require a very slight influence to stimulate any other organ to its proper action— then how absurd the idea that the skin is to be favourably affected through the agent which is to exercise its strength primarily upon the liver, why, combine these agents and if skin and liver both require excitement and so apportion your agents that they may be in extent and strength proportionate to the organs upon which they are expected to operate and you will have less trouble in treating sore mouths— and I would ask also in which is the skin most disposed

to act its part, in a cold or a warm region?
The answer is self evident — how erroneous
then the the doctrine that warm climates re=
quire more mercury than colder ones, it is in
warm climates that the skin acts most freely
and when the skin acts it requires a less pow=
=er to whip up the lagging liver — This how=
=ever should always be borne in mind that no
one agent should be expected to perform all
the indications which present themselves in
any disease, much less should we take one
which is capable of such wanton and irre=
=parable mischief as this heroic drug

1843

An
Inaugural Dissertation
on
Pleuritis
Respectfully Submitted
To the
Examination
of the
Provost Regents and Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
By
John G. Gamble Jr
Florida.

Pleurites.

During the time of Hippocrates, the term Pleurites signified any disease, characterised by acute pain in the side of the chest, of some violence & duration, and accompanied by considerable febrile symptoms. The true seat of the affection was unknown, & this circumstance together with the slight progress made by pathological Anatomy previous to the 18th century, gave rise to many warm controversies, respecting its real character & locality. The serous membrane, enveloping the lung & reflected over the inner surface of the walls of the chest, the lung itself, and the cellular adhesions, so frequently found uniting the costal & pulmonary pleura, have each been specified as the seat of the affection.

Many ages have been necessary to arrive at the accurate ideas now entertained regarding the nature & seat of Pleurisy. Up to a period not very remote from our own time Physicians were in the doubt whether the acute pain of Pleurisy, was not rather an indication of Pulmonic, than Pleuritic inflammation. The possibility of a seperate inflammation of the Pleura, uncomplicated with pulmonic disease, was for a long time doubted. Modern Pathology however has given us the true nature of the affection & pointed out its "Local

"habitation". And by Pleurisy is now understood an inflammation, acute or chronic, of the serous membrane styled the Pleura. This like other serous membranes is a closed sac, lubricated by a serous fluid exhaled from its surface, and allowing the contiguous parts to glide smoothly over each other during the various movements of respiration.

In health this membrane is transparent, with no appearance of blood vessels traversing its surface. On the occurrence of inflammation however, the existence of these is revealed evident. Its effect is to enlarge these vessels, which before were incapable of conveying any but the thin white portion of the blood, sufficiently to allow the transmission of the red globules also. These vessels are situated beneath the Pleura in the subjacent cellular tissue, which intervenes between this and another membrane of a fibrous character, first pointed out by Dr Stokes of Dublin, as lying in immediate contact with the lung. And are disposed into numerous branches ramifying & anastomosing with each other, forming a complete net work upon its surface. Immediately following the increased turgescence of these vessels, is the appearance of numerous red points or spots, formed apparently by minute extravasations of blood, & following this or coinciding with it, is the effusion of lymph or serum, or both.

The first effect of the inflammation is probably to cause a diminution in the quantity of the serum exhaled from the pleura for lubrication, analogous to the first effects of inflammation upon the mucous surfaces - which increase the friction between the surfaces - This suspension of the secretion is however but momentary, & is soon succeeded by an increased flow of serum, & with it an albuminous matter, styled coagulable lymph - The above comprises the changes that take place in the simplest forms of the inflammation. The vessels having no compound structure to modify or impede their action, the only effects of their increased turgescence & hypertrophy by the disease, is to exaggerate their secretory functions they fulfil in health - In health these are twofold, that of liquid exhalation for purposes of lubrication & the fluid exhaled serum - the other supplying a material for nourishment - which is the albuminous or fibrous portion of the blood - Yielded in their natural quantities these secretions preserve the membrane in a healthy state - But when inflammation occurs, their functions are increased, and an overflow of their products ensues - The liquid effused is more or less copious, & the excess of the albuminous secretion exhibits itself upon the exterior of the membrane in various forms either alone, or mingled with the effused liquid, constituting

the ~~serous~~ products recognised as the results of common inflammation. Continuing the Pathological history of Pleurisy, we will find that the nature of the fluid effused, is modified much by the constitution of the patient, & the severity of the disease. In cases of local pleurisies occurring in robust constitutions, the quantity of serum effused is small, whilst the amount of lymph is considerable, the same obtains in persons of a delicate habit, when the inflammation is circumscribed, but when more diffused, the serum preponderates, the quantity of lymph being small.

The thin & serous portion of the effusion, diffuses itself over the lung, and gravitates to the most dependent portion of the chest, & varies its position with the motions & change of position of the patient. When lymph constitutes the principal part of the effusion, it exhibits no such locomotive propensities, but remains adherent to the portion of the membrane affected. The former usually increases in quantity as the disease advances, and diminishes upon its decline, the lymph however is more persistent in character & ~~not so~~ so readily removed. But usually remains upon the Pleural surfaces & becoming organised, giving rise to the false membrane one of the characteristic products of this disease. When the affection has lasted a long time, & assumed the chronic form

form, a secretion of pus takes place & the serum is replaced by purulent matter, constituting the fluid of Empyema.

In the Diagnosis of inflammations of the Pleura, the cases may be divided into two classes, those in which the serum Effused is so slight as scarcely to be detected, & those in which the amount is great, giving evidence of displacement of the surrounding parts, and accumulation within the Pleura.

Dry Pleurites is a form of the disease in which nothing is thrown off from the vessels but lymph, the serous portion if any exist, being too minute in quantity to be detected. It occurs under various circumstances, either as a simple unmixed original disease, or complicated with or succeeding to, the various pulmonic diseases, or may be produced by Hepatic abscesses perforating the lung. In the simple forms the constitutional and local disturbances are slight, Organisation rapidly advances, The chest continues clear upon percussion, & all signs of an accumulation within absent. The only Physical signs to be discovered, are the friction sounds, which may be heard over the seat of the inflammation. These convey the idea of two rough surfaces gliding over each other, & may be heard both during inspiration & expiration, or may be absent during both. It may be present during both varieties of the disease in their early periods, before an Effusion

has taken place, & towards the close, when the fluid has been absorbed. And has been supposed to depend for its production upon the existence of unorganised lymph upon the Pleural surfaces. Pleuritis with Liquid Effusion, is met with under various circumstances. It may occur primarily in a healthy constitution, & accompanied by high inflammatory action, or it may attack the more delicate and lymphatic subject without exhibiting any severity of symptoms. Another form under which it may occur & probably the most dangerous, is where it is found presenting itself accompanied or preceded by a typhoid state of the constitution.

The predominant and most characteristic symptom of acute Pleurisy is probably the acute & pungent pain in the side, restraining every effort at even ordinary respiration, & rendering a forced inspiration or coughing intolerable. The pain is generally referred to the infra-mammary, or inferior lateral regions, most commonly the former. But it may also be felt in the axilla, shoulder & lumber region, & occasionally in the Hypochondriac & Epigastric regions also. When the Diaphragmatic portion of the pleura is the seat of the inflammation, it is usually referred to the margin of the ribs. The existence of the pain is not always constant.

Cases

Cases are constantly presenting themselves, in which recent and copious effusions have taken place, & the Patient suffered no unpleasanter symptoms than those produced by ordinary colds. The duration of the pain is seldom beyond the first day or two of the attack, & usually yields to the depletory measures resorted to by the medical attendant. A chill most frequently precedes the attack, which may vary in intensity from slight chilliness to a severe rigour.

The pain is generally accompanied by Fever which is usually persistent, & characterised by a tense, quick pulse. This however like the pain is occasionally absent, but when present, like the pain, diminishes in intensity as the disease progresses, after 4 or 5 days, assuming a less inflammatory type. It is often slight from the commencement & when the effusion becomes abundant, sometimes takes on the remittent form. The degree of Dyspnoea varies much, being dependant chiefly upon the severity of the pain, the nervous sensibility, & the amount of the effusion.

During the early acute stage of the disease, coughing is suppressed & checked by the patient, in his aversion to any energetic respiratory movements. When this period has passed or the case be of a mild form, the cough is frequent & dry. There is little expectoration during the early stage, save some glairy

glairy mucus in minute quantities, when it does take place it is purely catarrhal. The decubitus, during the early period, is seldom on the affected side, The patient carefully avoids all pressure over the seat of the pain, which is extremely sensitive, Even later in the disease the sound side or back will be preferred, in consequence of the continued tenderness of the part. When however the effusion has taken place, & is sufficiently abundant to exert pressure enough upon the mediastinum, obstructing the free expansion of the sound lung, the Patient instinctively turns upon the affected side, for relief from the threatened dyspnoea.

The symptoms heretofore mentioned as indicative of the existence of Pleurisy, are by no means, infallible or always present. Some, & occasionally all may be wanting, & yet the disease may occur & run on to effusion. As in cases of Latent Pleurisy. Sharp pains of a nervous character, not unfrequently closely simulate those of Pleurisy, & should they be accompanied by symptoms of febrile excitement, the resemblance is more perfect. We see this to occur in females of Hysterical habits, & they are exceedingly apt to deceive the unwary. The Physical signs peculiar to this form of disease, are more certain & unequivocal, And although they may not indicate the degree & intensity of the

of the inflammation, they seldom fail announcing its presence & appearance as of its most serious concomitant the effusion,

The changes this disease undergoes in passing through its several stages, are regular, & are accompanied by an equal regularity in the Physical signs, which attend & depend upon them. The first to be noticed, is the diminished motion & sound of respiration in the affected side, from the presence of the pain - The movements during its performance are instinctively checked, in the parts affected, & as a consequence the respiration is proportionally diminished there also -

This was noticed by M. Andral as one of the earliest signs. But as it depends for its existence, upon the extreme tenderness of the affected side which may not always be present, or may occur in other cases than those of Pleurisy, its value is not very great - The Friction sounds probably appear next in order, at the early stage of the disease, and is the result of a deficiency of the lubricating fluid upon the pleural surfaces, when heard after absorption has taken place it is thought to be owing to the existence of plastic unorganised Lymph upon the same surfaces - This sign in connection with the general symptoms will aid much towards an accurate diagnosis - The third sign is obtained from percussion practised over various parts of the chest, which ~~typifies~~ Emits

emits a dull sound over the parts corresponding to the locality of the fluid. The dulness is generally most evident at the lower part of the chest. It is here that the fluid collects, in the lower posterior parts of the Pleural sac, ~~and~~ causing the lung to recede from its natural position in contact with the costal Pleura, & float in some degree upon it. And here the dullness is found, the parts above continuing clear & resonant upon percussion. When the amount of fluid is limited, alteration of the position of the Patient varies that of the fluid, & necessarily the region of dulness also. This cannot take place however, where old adhesions exist & prevent the free passage of the fluid on either side of the lungs.

As the quantity of fluid increases, the vesicular structure of the lung is pressed upon & yields, allowing the fluid to ascend between it & the costal Pleura. The ascent of the effusion is accompanied with a similar increase of dulness, which marks its progress & by which its height may be ascertained.

The dulness becomes more diffuse as the effusion increases, the infra-clavicular & supra-scapular region being the last to exhibit it. It occasionally happens however that when even these are dull & flat, some resonance may be found in the axilla, & is supposed to be transmitted through the fluid from the opposite side. When the dulness is partial, filling only a

only a portion of the chest, the dulness terminates by a well defined line, corresponding with the upper surface of the fluid, which is an important aid in distinguishing this form of disease from progressive Pneumonia in which the dulness is not so accurately bounded. The accumulation of fluid must necessarily diminish the extent of the motions being in respiration, in proportion as its bulk has compressed & occupied the place of the more expansible parts of this tissue & the sounds of respiration &c must be necessarily weakened, or its duration shortened. About the same time that this dulness is perceived, & reaches the middle regions of the chest. a remarkable change in the resonance of the voice occurs. It is heard here more distinctly than usual, & sounds as if produced at the spot, seperate from the voice formed in the mouth, & its character changed to a small tremulous bleating note, which from some fancied resemblance to the voice of the goat, has been termed Aegophonie. It is heard more distinctly between the third & 6th ribs, on the space corresponding to the position of the middle sized bronchial tubes, both in front & behind. Nearer the spine it becomes Bronchophony, owing to the location there of the larger sized tubes at the root of the lung. This modification of the voice peculiar to Aegophony, is thought to be owing to the existence of a thin

stratum

stratum of fluid occupying the interval between the compressed lung and the walls of the chest. This being a better conductor of sound than the healthy lung, is thrown into a number of fine irregular vibrations, by the thrill of the voice communicated to it, & the sound reaches the ear tremulous & with a certain nasal twang attached to it - resembling strongly the notes produced by speaking Automatons. The higher tones of the voice yield the clearest Aegophony, those of a deeper tone do not enter so readily into the smaller tube nor with the same distinctness that accompanies the finer tones, but reach the ear little altered or with a diffused fremitus. As the effusion increases this sign becomes weaker but more distinct, loosing some of its tremour. But when the fluid has become so copious as to compress the lung still farther from the ribs, the sound is gradually lost. The lung becoming compressed to a degree which renders it incapable of transmitting the sound through the fluid. The continuance of Aegophony for several days is a favourable sign, indicating the quantity of fluid to be moderate, & its increase slow. In most cases it is but a transient seldom lasting longer than the early stage of the disease, & in a large number of the cases falling under medical treatment, it is not heard, owing to the peculiar condition of the parts necessary

& its production having passed off in the progress of the disease,
Old adhesions by preventing the separation of the lung from the costal Parietes, will modify this as well as many other of the Physical signs. It is often when most distinct accompanied with some bronchial respiration most audible between the scapulae, & common bronchophony may also be often mingled with it. Indeed aegophony may be considered only as a species of of the latter, modified by its passage through the thin layer of fluid, & depends like it for its formation upon a compressed or consolidated lung. When the character of these two signs are well marked, they may be readily distinguished, but they are so often of a mixed and uncertain nature as to render their discernment a matter of some difficulty. When well marked aegophony is a valuable test certainly indicating the presence of an effusion.
The phenomena attending the vibration of the voice is another valuable adjuvant in the diagnosis of an effusion.
One of the first effects of the effusion, is to interrupt the vibrations of the voice, which is usually felt on applying the hand to the chest of a healthy person. The presence of the fluid interrupts & destroys this, the thrill communicated to the plain being often fine & delicate in character to be recognised by the touch. In a consolidated lung where no fluid exists,
the thrill

The thrill communicated to the hand is magnified greatly, beyond that in the healthy lung. & this difference affords a valuable test for distinguishing the two diseases. Old adhesions also come in to modify this sign also. These still holding the compressed lung in contact with certain parts of the walls of the chest. the vocal thrill may be felt over the spots where they exist.

In almost every case where the amount of effusion is great, an enlargement of the affected side results. This may occur also in cases when the fluid is not so abundant. A difference in the two sides may be detected when examined during the performance of respiration, At the end of the expiratory act, the affected side of the chest fails to diminish equally with the opposite, but remains more or less expanded. More evident at its lower portion. The most accurate mode of detecting any unnatural variation in the dimensions of the two sides, is by admeasurement. The chest is encircled with a piece of tape, which is fixed at the centre of the spine & sternum, & when respiration is going on, it will be observed to become tense & slack alternately, more obvious on the sound side. The eye alone may be sufficient to detect a want of symetry between the two sides, And the most favourable position for noticing it is to place yourself behind the patient and examine the chest from above. But to be more precise a recourse is again had to the tape.

The chest

The chest is encircled as before, & it is fixed where it passes across the spinous processes behind, the two ends are made to meet at the centre of the sternum. On removing the tape, which should be marked at the spot it crosses the spine, the two portions seperated by the mark, will be found to vary in length, the longer division answering to the side ~~upon~~ whether which the effusion exists. ~~In~~ Healthy chests however the right side usually exceeds the left by about a half inch, & when this side is the seat of the effusion this should be borne in mind.

Additional valuable signs are obtained from displacement of certain of the walls & organs bounding the effusion. After the lapse of a certain period, varying with the intensity of the disease, the intercostal spaces of the two sides present a marked difference, more evident in a thin than fleshy patient, where the depressions corresponding to the intervals between the ribs, give place to a uniform smoothness, or may present a number of prominences, answering to the same spaces on the affected side. The degree of this protrusion, Dr Stokes thinks of valuable aid in forming our prognosis, the cases in which ~~its~~ it is absent, or slight, recovering more rapidly than the others. Displacement of the mediastinum may be detected by percussion, the dulness extending beyond the mesial line, even as high as the top of the sternum. The organs bordering upon the effusion are often displaced

displaced by it from their natural positions. A dislocation of the heart ~~was~~ ~~the~~ by an effusion into the left Pleura, is the most readily detected. As the effusion increases the ~~apex~~ of this organ is at first slightly altered, striking the walls of the chest a little nearer the sternum than usual, As the distension increases, it approaches this bone & gradually concealing itself behind it, finally emerges upon the opposite side, giving us the impulse of the heart entirely on the right of the sternum. When the fluid is poured into the right Pleura, the heart is pushed towards the left axilla, where its pulsations may be felt. It is remarkable that although thus dislocated from its natural position, its relation to its principal vessels of course altered, yet an alteration of its natural sounds seldom occurs. nor any appreciable excitement in its action.

A displacement of the liver downward, is often the result of an abundant effusion into the right Pleura. The Diaphragm is necessarily protruded with it. The existence of this form of dislocation may be recognized by the appearance of a tumour equal in dimensions with that organ, occupying the right hypochondriac region, When the displacement is great, a sulcus is observable between ~~the~~ upper surface of the liver & the border of the ribs. Resulting from the space left by the contact of the two convex bodies, the upper surface of the liver, & the protruded diaphragm. In all cases when Physical exploration of the chest

is resorted

is resorted to, the two sides should be attentively compared, & the negative proofs of the absence of disease on the sound side will contrast remarkably with the evident existence of it upon the other. In most cases we not only find all the evidences of a healthy condition present, but the signs of its healthy action may be greatly exaggerated. The sound lung losing its task must increased by the interruption of the functions of the other, in its efforts at discharging its new duties, gives us the respiratory sounds greatly increased in intensity, approaching near the respiration of children & hence termed puerile. As has been before repeated old adhesions will modify to a certain extent all the Physical signs of Pleurisy. When these are loose, allowing the lung to be displaced to a small distance, the result would be the continuance of the Auscultatory sounds longer than would otherwise be the case. Should these on the other hand keep the lung closely adherent to the sides of the chest, & the pressure exerted by the fluid insufficient to remove it. & the location of these points be in the upper or middle regions, they will yield us loud bronchophony & bronchial respiration, & the vibrations of the voice will be perceptible to the touch. The condensed lung being a better conductor of sound than the fluid, the sounds of the voice & are transmitted down the tubes to the ear. The general symptoms denoting Pleurisy seldom maintain their acute character many days. The pain ceases,

or is felt

or is felt only on forced inspiration. The pulse loses its hardness & frequency, unless the effusion be copious, in which case it remains frequent though weaker. The Dyspnoea is less evident, & the Patient may complain of nothing but weakness. In these cases if the Physical signs indicate a diminished quantity of fluid, we may conclude that the inflammation has abated, or been subdued, & may anticipate a favourable termination. The removal of the fluid may be effected in a few weeks, but most commonly a much longer period is necessary, the effusion of a few days production often requiring six months or more for its absorption. The indications of of the gradual removal of the effusion, are found in the return of many of the Physical signs pointing out its commencement. The return of the Aegophony shewing the return of the lung nearer the costal parietes, & indicating the removal of a portion of the effusion to produce this. As the absorption continues, we notice a gradual return of the phenomena of respiration, first at the upper & then extending downwards as the fluid is removed. In moderate cases the liquid may be removed before the absorption or organisation of the lymph on the Pleural surfaces, & may yield up the friction sounds again. This however is but momentary the, lymph soon becoming organised. It not uncommonly happens that in the severe cases the inflammation continues after the serum has been poured out, & not only tends to increase the amount of this fluid, but also throws out an

out an albuminous matter under various forms, which tends to perpetuate the effusion, & retard the restoration of the diseased parts.

This condition of the disease may be included under the chronic variety of Pleurisy. The period of transition of acute to chronic Pleurisy, cannot be readily pointed out. The cessations of the acute symptoms without a corresponding improvement of the patient & the increase rather than the diminution of the products of the inflammation shewing still its existence, though under a new form probably indicates its commencement. It is difficult to say what renders an acute Pleurisy chronic. It may be the result of a badly treated case of the acute variety. or the inflammation may have resisted all the remedies, or returned after having nearly disappeared. A chronic form of this disease sometimes develops itself without having exhibited any acute symptoms. But most probably in most of these cases it exists under a latent form. The slight cold & feverish symptoms having been too slight to attract the attention of the patient. The Physical signs denoting the existence of this form of Pleurisy are similar to those occurring in the acute variety. But there is sickness an increase in quantity & weight of the effusion, giving rise to the prominence of the chest & viscera displacements before noticed. The general symptoms of Pleurisy will have disappeared. The fever may remain, but usually assumes a different type. which may be remittent, or Hectic or seemingly of

of this

of this character, with a small quick pulse. The latter form is considered by writers as the most alarming symptom, for the patient does not seem to suffer in other respects proportionate to the amount of effusion. Emaciation, relaxation of the muscular fibre & oedema of the extremities, are results which may follow the later periods of the severe cases of this variety of Pleurisy. Cough may be present throughout & probably expectoration also of a purulent character.

Pathology. In the acute forms of Pleuritis the first changes from the healthy condition of the membrane is the increased turgescence of the vessels & the ecchymosed spots mentioned before. The Pleura themselves are rarely thickened, owing their apparent hypertrophy to the numerous layers of false membranes covering their surfaces & which may be separated from it. The fluid exhaled from the inflamed pleura present many varieties. In the early stage it is sometimes perfectly colourless, or tinged with a yellow lemon hue, & transparent. In the midst of this usually are seen floating numerous flocculi of lymph, which when very abundant are liable to be disguised in some measure by the fluid, & may render this turbid. In some cases the liquid is found to be turbid, in others of a greyish, brown, yellow or green colour & it may be of a thick & muddy appearance. In some rare cases it is filled with a peculiar fluid

neither

neither serum, nor pus, but resembling animal jelly half liquified, or honey, or of a nature similar to the matter found in certain external tumours, termed Meliceris. Blood may be also effused, sometimes presenting the appearance of serum mixed with a portion of the colouring matter, & at other times exhibiting all the appearances of blood drawn from a vein with real fibrinous clots still united to the colouring matter or both lying separate in the cavity of the pleura. The various fluids thus poured into the sac of the Pleura are all devoid of smell, unless a communication exist between it & the external air, either through the parietes of the chest or by an opening into a bronchial tube. Aeriform fluids are occasionally found within the membrane also, alone or with the effusion, In some cases it is thought these gases may have been exhaled, but most frequently they are found present only when the communication externally exists. The most interesting phenomenon of the pathology of Pleurisy is the formation of the false membranes. A liquid resembling coagulable lymph is thrown out and deposits itself upon the surfaces of the membrane; & speedily becomes solidified, after a little, signs of vitality begin to manifest themselves, red points are developed, which at first few & scattered, multiply & elongating themselves into reddish lines, traversing the albuminous substance, finally become vascular

canals,

canals, which find their way out of the new membrane & establish a communication with the vessels of the Pleura - The rapidity with which these false membranes may be formed, & become organised, cannot be rather has not been ascertained - Experiments upon animals & observation on man, shew that the process may take place very rapidly in some cases. In Rabits whose Pleura had been injected with acetic acid & then irritated, soft and very delicate false membranes, traversed by numerous red lines which anastomosed like ordinary blood vessels, were found existing at the end of nineteen hours - In others subjected to the same treatment & under similar circumstances, no such appearances existed, even after the lapse of a much longer period, but a serous or purulent fluid was found effused into the sac - with an admixture of albuminous particles entirely inorganic - M Andral ~~[illegible]~~ in his observations upon the human subject, found membranes already vascular in persons dying of Pleuritis at the end of a very few days - & saw no traces of them in others dying at a later period - Their organisation cannot ~~exist~~ ~~upon~~ be supposed to depend upon the time elapsed since their formation, And the period at which it does occur is difficult to shew - It would seem that there exists some mysterious individual predisposition to accelerate the process in some, and retard it in others - The form of these membranes vary much,

Sometimes

Sometimes attaining great thickness & exhibiting the appearance of real cartilage & in the progress of years may become ossific. Milliary granulations are often found upon the Pleura, distinct from such other & which might readily be taken for tubercles. But differ from these in their intimate texture. These morbid products sometimes are lengthened into bands, differing in size & strength, extending from one Pleural surface to the other, to meet which they are occasionally obliged to traverse a large stratum of fluid. These adhesive bands are found frequently when no effusion is present & are usually of sufficient length to admit of free motion in the lungs. When recent they are soft & yielding, easily torn, but gradually become more firm & strong, & finally exhibit the character of real cellular tissue, establishing an intimate connection between the contiguous surfaces of the Pleura, as may be seen.

Of the exciting causes of Pleurisy Cold is doubtless the most common. It may have for its origin organic disease of the lung also. Inflammation of this organ almost always implicates the Pleura to some extent, hence M. Andral has said that a Pleuritis <u>with</u> Pneumonia is a much more uncommon occurrence than a Pneumonia <u>without</u> a Pleuritis. The latter is of such rare occurrence that he has given to the disease the generic title of Pleuro-Pneumonia. The disease may be excited

be excited also by external injuries, such as wounds penetrating the chest & contusion of its walls. Fractured ribs may also occasion it. Differential Diagnosis. Pleurodynia & Nervous pains of an acute character, in the upper portions of the chest & abdomen closely simulate, the pains of Pleurisy. And as often really exists at this early stage any physical signs to guide us. we must look to the general symptoms as fever, heat of skin the sharp & hard pulse, for the character of the affection. In Pleurisy the pain is to a certain degree limited, & referred usually to the infra-mammary or axillary region. In pleurodynia it is constantly changing its location from spot to spot, & may be present on both sides at the same moment. It also disappears & returns at short intervals, exhibiting the peculiar character of nervous or Rheumatic diseases. Consolidation of the lung may possibly be confounded with Pleurisy, but a carefull attention to the physical signs peculiar to both, will serve to separate the diseases. Prognosis. In simple acute pleurisy the Prognosis is almost always favorable, if the case is seen early. It often yields readily to the remedies employed, provided no pre-existing disease of the lung preceded it. Dry Pleurisies are also less dangerous than those attended with effusion. And local inflammation than those of the more diffused character. Diaphragmatic Pleurisies however

however are usually attended with much greater severity of symptoms than a more extensive inflammation of other part of the Pleura - When the acute symptoms have passed & the oppression resulting from the first impression of the fluid subsided, the ~~[illegible]~~ condition of the patients general health & strength will to a great degree govern the issue of the disease - The Prognosis is unfavourable generally in proportion to the amount of the effusion "ceteris paribus" A double Effusion is almost always fatal, though it may not be abundant. The complication with organic disease of the lungs, heart & liver, or kidneys often renders the disease intractable -

<u>Treatment</u> - The remedies employed in the early acute stages of Pleurisy should be such as are adopted to acute inflammations in other parts - conducted upon a strictly antiphlogistic plan - The object is to subject the inflammation speedily, before the effusion has taken place, or has attained any amount - General & local bloodletting carried to the extent of affecting the system should be resorted to, & continued until a relief from the acute pain follows - Should this recur - the lancet should again be resorted to, & repeated again, according to the urgency of the symptoms, & the capability of the Patient to bear further depletion - The general rule of most Practitioners as to the extent to which the depleting measures

may be

may be carried, is deduced from the strength of the patient & the relief of the pain & irritability upon a full inspiration. Dr Stokes says, there is more danger from excessive depletion in this disease than in the deeper seated inflammations of the lungs & recommends after the second bleeding to trust entirely to local depletion & the therapeutic remedies to be employed. In conjunction with the depleting measures resorted to, the use of Tart: Antimony in doses varying from one ~~sixth~~ eighth to a half grain, is a powerful adjutant in reducing the more violent symptoms, & can should be taken that it should produce no vomiting.

The use of blisters in the early stage of the disease, during the continuance of the severe inflammatory symptoms, is pretty generally condemned by writers. Laennec tells us that the result of his experience convinces him, that their use during this period, was generally followed by an increase in the effusion. When however the more violent symptoms have subsided, under the active remedies employed, & we have reason to hope the inflammation checked then their application is followed by the happiest results. And they are perhaps of all remedies, those whose action can be least doubted, owing to the relief experienced by the patient as soon as vesication has been produced, & the absorption of the fluid which follows. The mode of treatment which the writer of this has seen employed

Employed during the past year by one of the Physicians of the Baltimore Almshouse, differs from the foregoing recommendation of most Physicians, Immediately after a copious venesection pushed to the extent of affecting the system, a large blister is applied upon the affected side. The benefits derived from this early use of the blister are, that before the excitement of the circulation has had time to return in full force, a new inflammation has been set up opposite the former one - arterial & nervous action are invited to this point, & as follows necessarily if the doctrine of Counterirritation be true, there will result diminished action within. The new disease draws off the morbid action from the old one & the violent symptoms do not reappear, & more probably the external stimulation rouses the inflamed & weakened vessels within, to their contract & do not permit themselves to become so readily dilated again. The objection to the early use of blisters, is owing to the irritation they are apt to produce, increasing the fever & more than counterbalancing their good effects. It is true they are irritants when applied in a healthy constitution & cause more or less fever, But may it not rather be, that the more intense irritation exciting within prevents the heart & nervous system heart through the medium of the nervous system from feeling to any extent the irritation of the skin, In proportion as it relieves the severe symptoms of excitement it acts as an anodyne, & On this principle may account for the fact

fact that the patient will sleep frequently through the whole period the blister is acting, probably the first he has enjoyed for days. When blisters are employed they should be large, & care should be taken that they do not remain on too long. The reddening of the surface is a good indication for its removal, & following this by an emollient poultice, will produce vesication sufficient for any purpose. By this means the tissues are not too deeply inflamed nor the system irritated by the absorption of their products. The administration of mercury either internally or by inunction, to the extent of bringing the system under its influence, is urgently recommended. It may be given in small doses combined with Ipecacuanha & opium to relieve pain if any exist & to prevent its passage too rapidly through the bowels. The beneficial effects of this agent are often obvious, though it may not affect the gums, but manifest itself in the hepatic & alvine secretions.

Mercury exhibited in moderate doses, insufficient to offend the bowels, has a twofold action upon the system. The one decidedly antiphlogistic, aiding in the relief of the inflammation, & the other the influence it exerts over secretion & absorption. In the acute & active stage of the disease it is the first, from which most aid is to be expected, & it should be so exhibited as to bring the system speedily under its influence. When however the inflammation has been subdued, the action of the medicine is chiefly directed

to the

to the absorption & elimination of the fluid, and should be administered so as to affect the system slowly. With the mercurial treatment may be conjoined other agents having a tendency towards the skin & kidneys & aid in reducing the inflammatory condition of the blood. Dover's Powder or Ipecacuanha alone may be combined with the mercurials, to the effect of producing free diaphoresis. As diuretics Nitre, Squills, Digitalis &c may be advantageously exhibited. In local Pleurisies of a mild or partial character, such as those excited by tubercles, or which come on in combination with typhoid symptoms, our antiphlogistic measures must be modified to suit the nature of the case, & strength of the patient. During the first stage of Pleurisy the diet of the patient should be of the simplest character.

The remedies employed in the chronic variety should be such as are moderately antiphlogistic, & promotors of absorption. Leeches may be applied 6 or 8 in number during the first eight or ten days, & the mercurial treatment continued until slight Ptyalism is effected. The counterirritation from blisters should be employed. It is perhaps better to employ them small at first, successively over various parts of the chest. These not only aid in reducing the inflammation & promote absorption but probably aid in restoring the energy to the inactive muscles of respiration, as they sometimes do to a paralised limb. Here too the diaphoretic & diuretic agents may be administered with advantage. The nitrate & acetate of

Acetate of Potassa are highly spoken of by Laennec, in ~~doses~~ large doses, with these can be combined Digitalis, squills, & many others of the class of diuretics - Iodine exhibited internally & externally by inunction, is a remedy warmly advocated by Dr Stokes. A pint of Lugolls' Mineral water may be taken daily, & the ointment rubbed over the surface of the chest - This preparation of Iodine, varies in composition, in strength - containing from 3/4 of a grain to 1 1/4 of Iodine, with double the quantity of the Hydriodate of Potassa, This latter preparation of Iodine, the Hydriodate, may be used singly with much benefit - and in cases of the Typhoid or asthenic type, the Iodide of Iron has been recommended. When the absorption of the fluid has taken place to a considerable extent, change of air will often complete the cure -

The removal of the fluid by an opening through the walls of the chest, (Paracentesis thoracis) has been a matter of controversy among Medical & surgical writers. The results as far as the operation has been tried, are far from being favourable or encouraging, But this may be owing to the unfavourable circumstances under which it is usually resorted to - There are two varieties of cases, which require this mode of ~~relief~~ evacuating the contents of the Pleura - First when, early in the disease the accumulation of the fluid is so rapid, as to endanger the life of the patient from suffocation. The other includes those cases when the fluid

evinces no disposition to disperse, but continues to increase or remaining stationary, acts as a foreign body, preventing a happy termination to the disease, & giving rise to constitutional disturbances of a dangerous character. In the first class, the relief is but momentary, the cause of the effusion still existing. The thorax will soon become distended again. In the other variety, the inflammation may no longer exist. But the lung is usually so firmly bound down in its compressed state, by strong adhesions & false membranes, as to be incapable of expanding to fill the vacuity caused by the removed fluid. And the admission of air which must necessary follow the operation, only substitutes a Pneumothorax for the original disease. That the operation is often successful cannot be denied. But the condition of the patient, generally when the operation is resorted to, is such as to offer slight hopes of a happy issue.

1843

An Inaugural dissertation upon the nature, causes &c of Scurvy by -
A. L. Bonie. Apt Surgeon
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The disease which I propose to consider in the following Thesis, presents so little that is perplexing in a mere therapeutical point of view, that were I to confine myself to a simple detail of its treatment, it might be disposed of in very few words. The hygienic regulations that modern experience has established, may be said to have achieved a most signal triumph, over this terrible scourge, and in the present day it is of such rare and infrequent occurrence, as scarcely to afford in a long life time, an opportunity for its study, from actual observation. As a land disease also, it may be said to be fairly extinguished, at least in those countries where the improvements in gardening & agriculture have been introduced.

When we consider however the frightful desolation occasioned by this disease among the earlier navigators, (as well as the armies of Europe in the last three centuries) so great indeed, that it has been computed that more men have died of scurvy on board Ships, than of the various accidents to which they are exposed, including the calamities of naval warfare. We are struck with surprise, at the tardy advancement that was made in a knowledge of its character, & the still tardier improvements that were subsequently introduced for its prevention, when the causes that gave rise to it, were so fully ascertained.

That a class of men so essential to the glory and prosperity

of a nation, as Sailors, should have been left for so many years a prey to this destruction pestilence, when the means for fortifying them against its contamination, were as accessible, as they were well known, is an enigma in the history of past times, that would puzzle Oedipus to solve - It would however be a difficult as well as unpleasing task to at so remote an interval as the present to estimate the full force of the many impediments that may have interposed themselves in the way of philanthropy and justice in those days, and it might be committing an injustice to visit with indiscriminate censure the persons who were invested with the superintendance of Naval & Military affairs in those times.

I pass therefore at once, to a brief consideration of its history and symptoms, compiled principally from the observations of others - the conditions most favorable for its production - the means for its prevention & cure - & finally the anatomical characters it reveals after death.

The English word Scurvy is of Saxon origin apparently deduced from the same root as the vernacular names of this disease, among the other nations of the Saxon race, & the Medical appellative Scorbutus, a latinized variation of the Danish term Skorbug.

The historian of the Campaign of the Christian Army in Egypt under Louis 14 (Le Sieur Joinville) gives the earliest and most satisfactory description of Scurvy.

as it affected both humans and Otters, but there is abundant evidence of its having been witnessed before, by the Rabbinical Jewish and Arabian Physicians, tho' imperfectly described in their writings. The debility and tendency to sworn, the black spots on the legs. Epistaxis & the livid & spongy condition of the gums detailed by Joinville, assure us that he had seen the disease in its worst forms. That Scurvy has existed in the North of Europe from the remotest antiquity can scarcely be doubted, as the conditions ~~prevailing~~ ~~favo~~ essential to its production must necessarily have prevailed to a much greater degree than at present, & the omission to mention it has been attributed to the extreme ignorance of the people in those days, especially in Medicine.

In fifteen hundred and fifty five Olaus Magnus in speaking of the diseases peculiar to the Northern nations, whose history he was then writing, described Scurvy as a disease infesting Soldiers in Camps & persons shut up in prisons or besieged Towns. At that very time it is facts that there were three physicians treating of it. & what is more remarkable, they recommended the very remedies, which ~~the~~ subsequent experience has justified as being most efficacious.

The history of ancient and modern sieges are interspersed with details the most sickening of this horrible Malady, & a faint Idea of its ravages may be formed from the circumstance of five thousands Prussians in one garrison

having punished of this

having perished of this distemper, during the siege of Thorn by the Swedes which lasted only five Months, & was carried on in the summer.

In the war between the Austrians and Turks, in seven=teen hundred and twenty, when the Imperial Army Wint=ered in Hungary, many thousands of the soldiers were cut off by this disease.

It was also very common, and very fatal among the Russian Armies, in the Early part of the last century.

Smollett in his continuation of Hume's history of England tells us that in seventeen hundred and sixty, the Eng=lish troops stationed at Quebec sustained a loss of up=wards of one thousand, & that more than twice that Num=ber were rendered unfit for service.

In much later times however we have information of the occasional appearance of scurvy in the prisons of Eng=land, but always under circumstances of improper and insufficient diet, of which the succulent vegetables had formed no part.

The ravages however of this disease on land tho often=times occurring in situations of the most cruel hardship & privation, can nevertheless but feebly compare with the sufferings of the Earlier voyagers with whom often more than two thirds of a Ships Company were lost in a passage across the Atlantic. The narratives of Captain Drake & Cavendish are pregnant with the most painful recitals and Cartier in the account of his second voyage to

Newfoundland, describes it most accurately as it showed itself among the crew, tho' he foolishly ascribed it to their intercourse with the Natives.

In the first voyage for the establishment of the East-India Company, a loss of nearly one fourth of the men of those of the Ships was incurred, whilst those in the Flag-Ship retained their health unimpaired, from there having been served out to them as part of their ration three Table-spoonsfull of lemon juice, every Morning. The hypothesis of Lord Anson in seventeen hundred and forty was attended with even more disastrous consequences, as at the hypiration of two years a larger proportion than four out of five had perished of ~~Scurvy~~ this disease.

The most appalling instance shewing of the fatality of Scurvy is the one that occurred under the Command of Admiral Hosier in the West-Indies, who had the misfortune to bury the crews of seven Ships of the Line twice, and actually died himself of a broken heart in consequence.

If we ~~take~~ assume the assertion of Sir Richard Hawkins that he could give an account of ten thousand men that have died of Scurvy alone, in the twenty years he had been in Command ~~to~~ as correct, and make it the basis for our calculations, we shall be able to make some approximation at least, to the immense number that have been swept off by this infernal ~~pestilence~~ distemper.

Humanity recoils at the bare computation of such an unnecessary sacrifice of human life and suffering. since the omission to procure the proper prophylactic measures, on the part of those invested with the direction of such matters can be ascribed to any thing rather than ignorance at so late a period as the year of seventeen hundred and ninety five - It was not until that time that an order was issued by the Board of Admiralty in England for a full supply of lemon juice, the efficacy of which had been tested by the experience of years before - & from that moment the extinction of the disease may be said to have been effected -

I come now to the symptoms that characterize the disease.

The first appearance of scurvy is indicated by a change from the natural color of the complexion to a pale dingy hue, attended with great languor and despondency.

The gums in turn become tumid & spongy, & bleed upon the slightest touch - As the disease progresses the skin assumes a darker and more unhealthy character, ~~and~~ attended with a disinclination to motion amounting almost to helplessness - At times the debility is so great as to occasion breathlessness & palpitation to an alarming degree. He swooms from the slightest exertion, and in extreme cases, cannot be resuscitated - From the commencement of the disease to its termination the patient is liable to Hemorrhages - They occur most frequently from the gums and more often also from the intestines, & occasionally from the stomach & bladder

Of the last nine cases that fell under Dr Budd's observation seven presented epistaxis. Three had hæmorrhage from the bowels. and of twenty seven cases three had hæmatemesis & in one the vomiting recurred several times. Ecchymoses appear on the ~~[illegible]~~ more dependent portions of the body, but rarely on the head and face. next in order we have fibrinous effusions taking place in the deep seated cellular tissue, & between the layers of muscles particularly in the legs and thighs. They are most usually deposited however about the knee, attended with considerable swelling, and always stiffness and contraction of the joints. The contraction has been supposed by Dr Budd to be owing to the effusion acting as a foreign body, & preventing the ~~effusion~~ tendons from coming in apposition to the bone, which is necessary for the full extension of the ~~legs~~ limb. The skin in the vicinity of these effusions, altho' sometimes retaining its natural color, is often discolored, & always thickened & brawny as if infiltrated with fibrin, & closely adherent to the parts beneath. In this stage of the disease the patient suffers the most lancinating pains along the shafts of the bones, in consequence of the extreme tension of the periosteum from these effusions taking place beneath it.

If a person have any wounds or ulcers at the time he becomes affected with fever, they assume a peculiar aspect discharging a dark colored sanies, and sufficiently ~~[illegible]~~

sufficiently characteristic to have been designated fever tertia -

The pulse in fever is generally full, and the patient complains of extreme chilliness - as the disease advances its frequency is accelerated, attaining the rate of a 120 or 130 per min - the skin also becomes hot & dry presenting that peculiar roughness known as the cutis anserina -

The natural secretions are scanty, and as a ~~rule~~ consequence the thirst is not very urgent - The cutaneous transpiration is suppressed the urine high coloured, & the bowels tho' occasionally regular, are in most cases torpid -

The tongue is almost always clean and moist, the inside of the lips smooth and pale, contrasting strangely with the swelling & livid redness of the gums -

The appetite is almost always good to a very late period of the disease, & the digestion is likewise unimpaired

In the earlier stages he sleeps well but as it advances he is tormented with watchfulness, for which he is always at a loss to account -

The intellect is undisturbed throughout the whole course of the disease, he talks rationally & retains his memory to the latest moment of his life -

At last however as it advances to its termination the pulse becomes more frequent & wavering, the inspirations more & more rapid, he has cough and expectoration of a frothy mucus that oozes from the fibres of the mouth, the countenance assumes a more livid hue, & he dies as it were poisoned by his own blood -

Causes of Scurvy -

The persistance for a sufficient length of time in a single article of diet, confined to a low temperature with a certain degree of humidity, would seem to present the most favorable catenation of circumstances, for the development of this disease. Man is an omnivorous animal, & from prolonged abstinence from either meats or vegetables, results a defective supply of the materials necessary for the healthy elaboration of the blood, ~~without~~ independently of any correspondent alteration in the solids. A momentary glance at the physical condition induced by these circumstances, must convince every reasonable mind that such is the case.

The cadaveric paleness of the tissues, the frequency of spontaneous Haemorrhages, the constant disposition to from most clearly evince a deficiency in the healthy constitution of the blood. That the solids are indirectly if at all implicated, until a very late period, is inferred from the energy and promptness with which food is assimilated, when administered of a proper quality, even in the most protracted cases, & the speediness with which convalescence is established.

The prejudice so universal with Seamen at one time against salt provisions, as the specific cause of this disease, is entirely exploded, as there are hundreds of instances on record of Scurvy having originated in situations, where they had formed no part of the subsistence of those, who had become affected.

The attention of Dr Lind was first directed to this error by observing that few persons enjoyed such excellent health

as those who worked mines were seen living in the salt mines of Poland. Sir Gilbert Blane also remarked that ~~salt provision~~ the substitute upon salt provisions, offered no impediment to the cure, when a full supply of lemon juice was allowed. The depressing influence of fear, the desponding consequent upon long voyages, & the protracted separation from home, have been enumerated among the causes that predispose to this disease. & they doubtless exert some agency tho' their relative amount, could not well be ascertained.

It would seem however that inability, whether consequent upon age, infirmity, or exposure to protracted heats or colds & moisture, presents the most favorable condition for its attack, & it is in virtue of this influence by long conveying us the cold & narrow seas of the Baltic Cattegat & English Channel, that we conceive the frequency of its occurrence in those vessels that were employed from time to time on that service. In illustration of this truth we need only refer to the observation of all writers that have treated of ~~the disease~~ scurvy, viz that those persons convalescent from previous sickness, were invariably the first to manifest the disease.

Of the various prophylactic measures that from time to time have employed the ingenuity of medical men all are utterly futile, without ~~the~~ a judicious alteration of the diet, an inattention to which, has never failed to give rise to the disease.

All articles of vegetable origin seem to possess antiscorbutic properties in a greater or less degree. Of these however the

the acidulous fruits, enjoy the first rank. Oranges lemons & limes seem equally efficacious in preventing the disease. The class of succulent vegetables have been variously lauded, but there is but an opinion with reference to the state in which they should be eaten. & that is in the form of Salads - all are more or less injured by cooking, or drying, & many are entirely destroyed. Their properties would seem to be in no wise impaired by preserving them in vinegar, and yet this latter article enjoys a very doubtful reputation for its ability in any manner to control the disease.

The comparative infrequency of Scurvy among the Dutch has been attributed to the use of Sour Krout, so common as an article of diet, with every class of society in Holland.

The fir-tribe has enjoyed a distinguished reputation for controlling this disease even in its worst forms.

In the war between the French and Muscovites, a number of the Army of the former that had been stricken down by ~~the disease~~ it were restored by a decoction of fir-tops, which became so famous afterwards as to acquire the distinction of Pinus Antiscorbutica.

Of all the articles known pertaining to the vegetable kingdom, those of the farinaceous order have been found least efficacious and yet even with these the acetous fermentation seems to develope the anti scorbutic property in a very marked degree. The well-known

preparation of "Somens" a very common article of food with the peasantry is an example of this fact.
It is prepared by pouring hot water upon oat-meal & allowing it to remain until it becomes sour. The liquid is then poured off, & boiled down to the consistence of jelly, & in this condition it forms an article of common consumption.

Of the remedial management of scurvy but little ~~[illegible]~~ remains to be said, since the means employed for its prevention are those most successfully applied in its cure.
The treatment indeed may be said to be wholly dietetic carefully guarding the patient against extreme cold against premature exertion, since many cases are recorded of having resulted fatally, from this cause alone.
The protracted wakefulness so common in the advanced stages may be relieved by a gentle opiate, administered at bed time. Should his bowels remain constipated, a mild laxative may be given, carefully watching its operation, lest he sink soon from the effects of so slight a depletion as this. If he suffers from troublesome ulcerations the best application is a detergent wash of lemon juice sufficiently diluted as not to occasion smarting, ~~& applied by [illegible]~~ The treatment of these horrors can only be palliative, as they heal but with the general renovation of his health.

The most striking anatomical feature in the history of fever, is the precipitation of the fibrinous constituents of the blood, presenting itself as a most painful complication in the last stages of the disease -
In all other forms of disease this appearance is regarded as a certain indication of a preexistent inflammatory condition, but in fever it would seem to be an almost mechanical subsidence, from an inability on the part of the watery portions of the blood to retain it in solution -
Nosologically speaking, we should say that fever may be ranged according to Cruveilhier's classification, under the heads "of lesions of nutrition", in which the function of Hæmatosis is most essentially perverted -
I pass over the minor organic alterations that we meet with, inasmuch as they are for the most part irregular & accidental, observing no constant relation either in intensity or situation altho' doubtless all referrible to a common cause -
The Effusion of Fibrine however, occurring as it does in all parts of the body at a late period of the disease, is a matter for deep contemplation, & constitutes in fact the leading phenomenon in its pathology - It was remarked by Dr Lewis and others in their observations upon this subject, that caries or exfoliation was never known to result from these [illegible]

fluctuating tumour extending the separation they occasioned of the periosteum & the bone. The solution of this mystery was supplied by Dr Budd, who by means of an injection carefully conducted, demonstrated the existence of a strong vascular connection between these clots & the surfaces of the periosteum and bone, both above and below.

"To pursue the subject any farther would be superfluous at this time, altho we are far from thinking that we have either exhausted its interest or overrated its importance, since its study, (in the words of an eminent writer on this subject) constitutes one of the most important investigations in Pathology showing as it does how many and how various are the changes that may succeed to a primary alteration from a healthy to a diseased condition of the blood.

An Inaugural Dissertation
on
Acute Gastritis.

Submitted to the examination
of the Provost, Regents
and Faculty of Physic
of the
University of Maryland
for
the degree of Doctor of Medicine

On the first of March 1843

By
Joshua M. Deaver
of Maryland

Richd. Wilmot Hall M. D.
Professor of Obstetrics, Hygiene and
Legal Medicine &c, in the University of Maryland

Dear Sir

Impressed with the highest respect for your professional talents, I claim, as your pupil, the privilege of dedicating to you, my Inaugural Dissertation.

In dedicating this trifle to you, my only motive is, to acknowledge the gratitude I feel for the many instances of disinterested friendship and generosity you have evinced towards me, as my public teacher, my private preceptor and faithful friend: the recollection of which will ever be pleasing to

Your much Obliged
pupil and friend
Joshua M. Denver

Acute Gastritis

This disease attracted my particular attention during the months of November and December 1842; not from its greater mortality, but from the fact of a gentleman of the profession with whom I saw a case of this disease during its progress, which terminated fatally, following the theory of Broussais, who regarded fevers of all kinds as an inflammatory affection of some part or other of the alimentary canal, or to copy his own words, "all the essential fevers of authors," says he, "may be referred to gastro-enteritis, simple or complicated, and all the acute examples of this inflammation in its aggravated form, proceed to stupor, typhomania, lividity, fetidity and prostration, and represents what have been called typhus, putris or adynamic fever or those in which the irritation of the brain is considerable, whether it amount to inflammation or not, or whether it produce delirium, convulsions &c, or take the name

of malignant, nervous or ataxic fevers."
I do not think it necessary to produce facts to prove the incorrectness of Broussaism, as the doctrine has been satisfactorily refuted.

Cause.— Gastritis may arise from different causes.— external mechanical injuries inflicted over the region of the stomach; mineral and vegetable poisons taken into the stomach; large draughts of cold water taken into the stomach when the body is heated by fatiguing exercise; going into a low temperature or cold water ~~when~~ when the body is heated; stimulating drinks; suppressed sanguinous discharges; metastasis of gout or rheumatism, original or transferred will produce this disease.

The same causes which produce colic in some persons will produce gastritis in others.— such as vegetable ingesta.

Slight causes will produce this disease in some persons.— exposure to cold in damp weather; putting on wet clothing;

and sleeping under damp sheets; sudden and great vicissitudes of temperature produce this disease oftener than any other cause.

There are others of an occult character, says Dr Eberle, which appear to possess a specific tendency to excite inflammation of the stomach. Of these the miasm which produces Yellow fever is the most remarkable.

Simptoms.— This disease of the mucous membrane of the stomach, is generally characterized by some one or other of the following symptoms:— burning & lancinating pain in the stomach, prickling sensation and soreness in the pharynx. tenderness in the epigastrium on pressure, great irritability of the stomach with nausea, retching, vomiting and purging.

The pulse is feeble, low and depressed. the more it is pressed, the greater the resistance will be found.

The skin is hot and dry, attended with

fever, which becomes more intense toward evening. the tongue is covered with a white fur along the middle with red borders; it is sometimes red & clean. The aspect of the countenance is indicative of great anxiety and despair—

When the inflammation is confined to the Stomach. the bowels are constipated, and the function of the liver becomes torpid—

The colon sometimes becomes involved in this disease. then diarrhoea and tenesmus attend—

Records of medicine furnish us with evidences of inflammation of the stomach on post mortem examinations. in which none of the symptoms which generally characterize this disease, were present—

Diagnosis.— This disease may be distinguished from cramps and flatulent pains by the following circumstances—

In gastritis vomiting generally occurs.

especially after receiving warm fluids into the stomach, but in spasm, vomiting is rarely excited by the reception of any warm fluid into the stomach.

In gastritis the pulse is feeble, low, depressed, and tense on pressure, while in spasm or flatulent pains it is full and sometimes natural.

In gastritis the patient lies quietly on his back: in cramp he throws himself about on the bed, or moves about with his body bent forward.

The pain never intermits in gastritis, unless for a few moments after some cold fluid has been taken into the stomach, or after vomiting: in spasm, the pain frequently intermits for several minutes, independently of any thing taken into or thrown up from the stomach.

Another very good diagnostic between these diseases, and which I consider the best of all, is, that the pain is increased by pressure in gastritis: while in spasm

the pain is diminished by pressure—
This disease may be distinguished from inflammation of the intestines, by the pain being burning and lancinating in gastritis; while that in inflammation of the intestines is griping: and also by the sensibility of the organs on pressure—

Prognosis.— A diminution of pain, a lateritious sediment in the urine, copious feculent alvine discharges, moisture on the skin, and a full and compressible pulse are indicative of a favourable termination.

But when the pain and vomiting continue for several days without abatement, the pulse growing more feeble, frequent & corded, with difficulty of breathing and hiccough, great danger may be apprehended—

If after the symptoms have continued progressing in this aggravated form, the pain suddenly subsides, the extremities become cold, the sight dimmed, and slight delirium attend, the case will inevitably

terminate in death.

Post Mortem appearances.- When the patient dies in the early stage of this disease, we find discolouration of the mucous membrane of the stomach with petechiæ, but when he dies in a more advanced stage, we find sphacelated spots, and sometimes perforation of that organ.

When we find redness of the villous coat of the stomach on medico-legal examinations, we must not infer that the patient died with inflammation of that organ, for wine, pepper, brandy, and all stimulating articles will produce this appearance, but as soon as the stimulus is removed, the redness disappears, was this an inflammation the redness would not disappear, but would continue to increase unless anti-phlogistic remedies were resorted to.

During the summer of 1842 I witnessed a medico-legal examination of

a woman who died from a poisonous dose of the tartrate of antimony, soon after swallowing the draught. (a mixture of tartrate of antimony and sweet spirits of nitre) she was seized with violent vomiting, burning pain in the stomach and great prostration, of which she died suddenly — upon examination the capillaries of the mucous membrane of the stomach was found injected with red blood, together with patches resembling the pustulation produced by the application of the ointment of the tartrate of antimony to the external surface of the body —

Treatment — Three indications present themselves to us in the treatment of this disease, — the first is to subdue the inflammation as speedily as possible by active antiphlogistic measures. The next is to prevent the reception of any thing into the stomach which

will excite its physiological action, and the third indication is to remove secondary irritation.

In speaking of the first indication I will suppose we are called in at an early period of the disease, when the patient is robust, the stomach previously healthy, the fever high & the pain and vomiting severe, we must first resort to general and local bleeding.

Blood should be taken from the arm and leeches applied over the region of the stomach, again and again, according to the duration and obstinacy of the symptoms.

We should apply warm and soothing cataplasms, or cloths wrung out of warm water over the stomach after each leeching. They promote the flow of blood and perspiration, and by that means aid in subduing the inflammation.

Some of our predecessors were of the opinion ~~that~~ pain and inflammation were inseparable, and hence they thought that when the pain ceased the inflammation was removed, notwithstanding the pulse was small, and corded, the breathing quick, the fever high, the skin hot and the thirst ardent. therefore we should not suspend the antiphlogistic remedies as soon as the pain and tenderness subsided, but persevere in there use until we have subdued all the phlegmasiae symptoms-

In young children it is sometimes difficult to arrest the after-hemmorhage from leech bites, in such cases all that is required, is to cauterize the bites with a sharp pointed stick of nitrate of silver, which in every instance will arrest the bleeding-

With regard to the management of

the bowels, we will have to obviate the effects of constipation.

Now if we attempt to relieve them by purgatives, we will generally aggravate the disease. This we will have to effect by the administration of purgative enemata as often as the case may require.

The administration of cold water and pieces of ice is also very grateful to the patient.

I shall now make a few remarks on the use of blisters in this disease, they should never be used in the early stage, but when we have reduced the action of the heart and arteries, we may use them with marked advantage to the patient.

As regards the second indication I have said all that this short essay will allow.

It only remains to speak of the secondary irritation and the

indication of treatment arising therefrom. In spite of the most judicious and energetic treatment, this disease will occasionly assume a typhoid character. the patient has more or less stupor is indifferent to surrounding objects, answers briefly and impatiently when questioned, his eyes are red and filled with lachrimal secretions. the upper surface of the tongue is dark brown &c, these symptoms are to be counteracted by the administration of tonics, stimulants, anodynes and blisters —

Thesis

A. D. 1843

"Cave autumnos fructus, ne sit tibi luctus"
School of Salernum.

Dedicatio.

Domini Professores Universitatis Marylandensis, honorati, et amici.—*Nathaniel Potter, Nathan R. Smith, Josephus Roby, Samuelis Chew, Ricardus W. Hall, Gulielmus E. A. Aikin ..... Salvete.

* Obiit Jan 1st 1843 —.

Pro more et requisitione hujus antiqui et celebri Universitatis, praeprono vobis accipere et perlegere, hunc tractatum secutum esse, scriptum anglicè, pro gradu Doctoris Medicinae. Cura summa et profunda admiratio, est mihi. Precor, singulos et omnes vestri recognosse tractatum mei, indulgente et benigne.

Fimbria, lugubris et sacra, in caput mei tractatus, denotat

adventum et invasionem mortis repente disruptum tuam phalangem excelsam. Nathaniel Potter, celebri et sancte nomen! - Amicus, immortalis Benjamini Rush! Obiit, anno domini 1843, et primo die anni. Aetatis septuaginta et quatuor. - Sanguinis rubri rivus, hostis hominis morbide affecti et inflammati, in quo semper contendebat, repente ruebat, cursu destinato, et superabat ipsum, effusione et strangulatione. Tum lux orbis medicinae extinguebatur! Experientia annorum plus triginta, in cathedra medicinae practicae, amissa est toto orbi. Cursus ejus Lecturarum, formavit, lineamentum finitum totae artis

medicinae. In illo, lux intensa et lucida, apparebat, et reflectebat omni veritati medicinae. Vir excelsi, accurati, et universi experientiae. Sic transit pater et patronus Universitatis!

Henricus Frost

Februarius primo die, 1843

Prophylactic means.

The Moralist tells us that it is a law of our present condition, that every pleasure pursued to excess, converts itself into poison, and becomes ruinous to soul and body. In conformity with this law, it may be alleged, that even every blessing and comfort of this life, when carried to excess, becomes a curse and alike injurious to soul and body. Man's province therefore in this limited state of being, is located in what is aptly called the humble mean, or in other words, in some secure position, between those extremes, an approach to which is so dangerous.

All enlightened nations, from

time immemorial, have manifested a strong propensity to a proverbial mode of expression, or to a frequent use of proverbs; some of which have been remarkable for their beauty and energy, and only need to be announced to produce a firm conviction of their truth. Many of them are still worthy of being called the beacon lights of life, unaccompanied with which, man's pilgrimage below, becomes a still more bewildering scene and vastly more expensive of time, strength and money. We are often not a little surprised to see how frequently the same proverb, or the sum and substance of the same,

obtains a footing and general currency in the languages of different nations. But there is no one science or branch of human knowledge, that partakes of or abounds more in proverbs, than the healing art. An eminent member of the Faculty, in our own country, speaking of the best system of modern medicine, says, it is only a converging series of maxims. And indeed what child of enlightened lands, has not had his attention and his feelings arrested, by that gem of mother-wit, an ounce of prevention is worth a pound of cure. Nevertheless let every dangerous extreme

be avoided, and even the utility of this jewel itself, will seem to be superseded.

It must be admitted by all, and especially every reasonable person, that excess in eating and drinking, is a prolific source of disorder and disease. "A well regulated system of diet," says one, "has great power in checking disease, and in promoting health." But in opposition to this, the epicure and hard drinker, must needs urge upon us the belief that what nature craves is always healthful. Upon this point we would say, that we cannot spend time or space to controvert this doctrine of

theirs, whilst we assure them both, that the appetite which they possess, and of which they boast, is unnatural and morbid. The epicure and the intemperate, may follow nature, if they will only adhere to the simplicity of nature, and ascribe nothing to her but her due. Such being the fact, she will never dictate wrong in the article of meats and drinks. The man who receives from the bountiful hand of nature, what is necessary, and what is necessary only, for the sustenance and comfort of the body, will always find that nature dictates right. But he who consults his morbid appetite

and gives it full license in regard to food and drink, will sooner or later, reap the products of his folly; and if his conscience be not the lying varlet of the epicure, or the seared iron of the drunkard, he will soon acknowledge his error, and no longer boast of nature's friendship.

Of the extremes to be avoided the first we shall mention, is, excessive eating and drinking and the use of innutritious food. Thus the system comes to be disposed to disease, and the slightest attack of miasmatic poison will be more likely to prevail. A course of living of this sort will most

certainly predispose the system to any disease; and nothing proves a more effectual barrier against all disorders, than a simple and regular diet upon suitable and nutritious food. Nutrition depends upon the quantity and quality of the food, and upon regular periods of receiving it. Many no doubt have been predisposed to disease by mere inanition or hunger. As to quantity, that may be, or ought to be, determined by each one's own experience, although it seems pretty well ascertained that every person may become accustomed to a fixed or measured quantity at every meal. The experience of Lewis Cornaro amounts to full proof upon this point. Having suffered severely

from his excesses in eating, he re-
stricted himself to eleven ounces
daily, and thenceforward came
to the enjoyment of good health.
His friends from misguided or
ill-judging sympathy, prevailed
upon him to add a little more
to his daily repast, the consequence
of which was, that he suffered a
sensible decline in his health and
feelings immediately. But we may
here be told, that the stomach
is like a school boy, doing mis-
chief when not employed. In
answer to this, we need only state,
that in the case of the noble
Venetian just cited, the meas-
ured and limited quantity
which he adopted, doubtless
served to keep the stomach

sufficiently occupied during the intervals of taking his allowance. Precisely the same quantity may not suffice for every individual; and yet it may be said with truth, that a certain quantity, (far less than ordinary) may be fixed upon, that will afford the stomach sufficient occupation. As to quality of food, that also may be determined by experience. It is to be remarked however, that the quality of an article, in point of wholesomeness, may be materially changed, by the way it is prepared, or by the art of cookery. The French and English, though but a few miles apart, differ very materially and obviously in many things; and in none more than their daily food,

and the method of preparing it. The necessary consequence is that the French people, enjoy a greater amount of health, and experience fewer inflammatory diseases: Furthermore the quality of the same article, in the hands of a French Cook, is materially changed and improved. This is not a little surprising when we consider that the English have long been favoured with the advice of Cullen, and the experiments of Rumford upon the subject. As to the French Cookery we are indeed not unmindful of what Broussais pretends to have discovered. Somewhere in his works, he takes exception to the French Cookery alleging that the constant

use of high seasoned articles of food, had not unfrequently irritated the mucous membrane of the digestive tube, so as to render it more susceptible of inflammation. The experiments of Rumford established the point, that stewing with a low degree and long continued heat, renders meat more nourishing. Some very important experiments have been performed in France by Edwards and Fontenelle, which serve to prove, that good food is to be known less by the weight which the body acquires, than by the increase of muscular power. We should be pleased to have these experiments continued in our own country.

It is ascertained that an habitual use of salted meats, will often dispose the system to cutaneous complaints; and nothing is more reasonable than that people should be guarded against the free use of fresh meats, in a warm climate, during an epidemic. A due proportion of animal and vegetable food, it is believed will invariably be found most healthful. Dyspepsia is a common complaint, and in nine cases out of ten, it is owing to an excessive use of improper meats and drinks, and irregular habits of eating. Coffee is doubtless a salutary drink, but it should invariably be used with moderation, and in

the former part of the day. The nervous and astringent qualities it possesses render it unsuitable for repose. Strong coffee at the supper table, is a sure fore-runner to that morbid wakefulness which is so inseperable from a dyspeptic state of the stomach and bowels. Tea when taken too copiously is productive of tremors and palsies, and every form of hysterical and hypochondriacal affections. Bread is indeed the staff of life; but it is not every kind of bread, nor is it every kind of making bread, that secures the end. Raised or light bread is evidently more wholesome; and here let

me add that brown bread, made of coarse corn and rye meal, is preferable to all others. Among the excellent regulations of the State Prison at Auburn, New York, is an established rule, that no bread is to be eaten, but such as has been baked the day previous. It was justly remarked by an elderly Physician in one of our Northern Colleges, that certain students who were dyspeptic, were "starched up with wheat bread." Whatever is crude and indigestible, and especially unripe fruits and vegetables, can never be used with safety.

Of the extremes to be avoided, we shall next mention, the vicissitudes of the atmosphere. "It is easy to see,"

says a judicious writer, "that there is a certain degree of constancy in the average weather and seasons of each place." We cannot but coincide with this writer, believing that all the laws of atmospheric vicissitude, although they may operate injuriously upon particular individuals, are yet founded in wisdom and goodness. It has justly been remarked that the seasons in this country have of late years materially changed. Let it be as it may, it is truly a pity that any one should entirely neg- the temperature and course of the winds, or the extent & ominous appearance of the clouds.

A new term has of late obtained, and we hear of individuals who have been acclimated. An in-

dividual who has removed from the North to the South in our own, is said to become comparatively exempt from the diseases of the South, by being acclimated. This may be more or less true, and yet we would make it our business just now to caution our friends against the extremes of heat and cold, at all times and in all climates. We trust we are not singular in the belief that Cold is the most prolific source of disorder and disease. We are sensible, however, that it is by no means easy to draw an accurate line of distinction between heat and cold, and ascribe a particular disorder to mere cold; more especially when we hear it asserted that the "matter of heat has no

agency in the temperature of bodies." Cold commences its ravages at a very early age. Frerisan in Italy, and Villerme & Edwards in France, have ascertained, that at least sixty six infants, out of a hundred die by being exposed to cold a few days after birth.

There is a species of recklessness in some individuals, who seem to take a pride in venturing upon the extremes of heat and cold; and although we may hear one and another allege that they are accustomed to such exposure, we would still lift a warning voice against the practice.

Heat and cold make their first attack upon the extremities, and their tendency is to diminish the

proper action of some one organ or tissue. "Exposure to cold", says one, by checking the action of the skin, increases that of the lungs; hence inflammation of the mucous surface, and even of the substance of the lungs." Living in damp rooms with bad food & cold air, produces inflammation of the lymphatics, by diminishing the vitality of the heart & arteries." "Excessive heat," says another, disposes the body to inflammatory diseases, & particularly to inflammation & enlargement of the liver." The hands & feet are most liable to cold, and much may evidently be done by every one for the purpose of preserving their proper temperature. To have cold feet habitually, is a most certain evidence of some

morbid affection in the system.

The augmentation of the sensibility of an organ, will doubtless occasion a greater afflux of blood to that organ; and the organ being in a state of great excitation, will be apt to produce febrile disturbance in in the system. Hence it follows that any great labour or violent effort of mind or body, violent anger or any passion carried to a high pitch, frequent & long watchings, deep anxiety & dejection of mind, will pre-dispose the system to disease. The number of young men who injure their health by close application, is so small, & a man-type to human learning so rare that we would barely advise the hard student, to adopt a

suitable & simple diet & proper exercise.

Of the extremes to be avoided, we would next mention inhalation or breathing of impure air. It is a point well ascertained, that atmospheric air loses its oxygen (the grand constituent of its purity) by constant respiration, especially in crowded apartments. In such situations, the air is said to be stagnated, or loaded with impurities; and hence, says Dunglison, "one of the greatest hygienic improvements of modern times has been a proper attention to circulation of air." The importance or necessity of introducing fresh air into prisons did not escape the notice of the benevolent Howard; but indeed this is so

obvious, that one is surprised at its being so generally neglected.

It is not an uncommon circumstance for the learned & unlearned to institute comparisons between one locality & another, & give the preference to that which is more elevated & airy. But we are prepared to assert the fact, that families located upon comparatively low grounds not unfrequently enjoy a greater amount of health than those which occupy more elevated stations. More health is generally enjoyed by families located immediately on the banks of the Mississippi, than upon the hills at moderate distances from the river. The same fact has been observed in one of the largest counties

in Virginia. One thing, however, is well ascertained, that at every preferable locality of that sort, there is a provision for a free circulation of air. A mistake is sometimes committed in cutting down trees adjacent to an elevated situation, as these may serve very much to promote the purity, as well as free circulation of air. Enough has already been said & written upon Choke damp, and fire-damp, & the poisonous gases of the Chemist. Let it suffice to observe, that upon going into places where fixed air has been known to exist, it would be a wise precaution to take a lighted torch along, & retire at the first sign of its being extinguished.

Again, the miasms of vegetable matter, are to be avoided. Much has been said & written upon the way the marsh poison first attacks the system, but it seems to little purpose. Some seem to imagine that if they could exactly the nature of this enemy, they could obtain an easy victory over it. But the details of every new experiment upon its nature only serve to confirm the belief that it is impossible to obtain it in a seperate state, or detach it from its affinities. It may evaporate, expand or fly off in the process, or combine with some peculiar associate.

Habits of uncleanliness are to be avoided. A habit of uncleanliness will prepare the system for the reception of marsh poison, as well as render

it liable to many other diseases. The capillaries of the skin being disturbed to any considerable extent, it is easy to conceive of the disorder being propogated to some vital part. Our limits will not permit us to dwell upon the virtues of the cold or warm bath; whilst we would guard against the use of any apparel that promotes the accumulation of filth in the pores of the skin. The wearing of flannel unless it be frequently changed & put on dry, may inflict a more serious injury than its entire disuse.

In regard to wearing apparel, as a general rule, let both sexes be clothed as the seasons dictate, & neither wear too much nor too little, & avoid the sudden changing of apparel. Many an amiable female

has experienced an entire overthrow of good health, a good constitution, & we had almost said a good character, by adopting the thin dress of fashion, & venturing upon the midnight air. On the other hand, many a young man of promise, has incurred an unfortunate delicacy of health by occasionally wearing too much clothing. We are sensible that habit has great influence in this particular, but experience has long since dictated an invariable rule for cold & warm weather. In the one case to wear what is necessary to be comfortably warm, & in the other, never to put on too much clothing.

Returning for an instant to the subject of marsh poison, we are prepared to insist upon the following pre-

cautions; to wit, withdraw immediately from the sickly region - uniformly live & sleep in upper rooms - avoid the night air - drain and cultivate marshy grounds - leave every tree standing between the marsh & the dwelling house. During the Fever in Natchez, Miss. in 1822, the health of a whole family was preserved by living & sleeping in an upper room.

Again, avoid low spirits & melancholy. This may arise from a mere want of resolution, & a culpable proneness to look on the dark side of things. Disease may indeed so far enfeeble the system as to destroy all resolution, & banish the virtue of firmness. The kind offices of a friend, a nurse, or the Physician,

will do much towards dissipating the evil. The low-spirited invalid, the melancholic misanthrope, & the insane, demand nothing so much as kind treatment. We cannot enter into a detail of the various methods of alleviating the depression of a sick man, as it is certain that a judicious nurse will adopt none but judicious means for that purpose. "In favour of the influence of music upon melancholy or low spirits" says one, we have the testimony of all antiquity, along with the effect produced upon the gloomy distemper of the perverse mind of Saul." But it is not every kind of music, vocal or instrumental, that will produce the desired effect nor will music of any kind prevail at all times & seasons.

Having suggested certain prophylactic measures of a negative character, we will briefly glance at such as may be called affirmative; and the first will be Exercise.

We trust we shall be relieved at once from any effort to show, that bodily exercise in this case profiteth much. There is one pre-requisite, however, in regard to this, that may be said to constitute the sum & substance of any substantial benefit to be derived from it, & that is, it must be habitual. Sudden & violent efforts of the body can scarcely fail of being injurious, even when there happens to be no displacement or disorganization of any vessel. Almost all kinds of manual labour, & the labours of agriculture, have a salutary tendency. Certain

gymnastic exercises are healthful; but for want of proper system, gymnasiums in our own country, as yet appear to be unproductive of any definite advantage. There are two leading kinds of exercise riding on horse-back, & walking; the latter of which, when habitually practised is thought to have the preference. While a young student solicited a kind father for a horse, a Physician standing by enquired for what purpose, & without waiting for an answer, responded as follows. "Don't you know" said he, addressing himself to the youth, "that riding is being exercised, & that walking is exercising." In the advice given by medical men to invalids, in regard to exercise on horse back, there is often too little stress laid upon the gait of the horse, the nature or character

of the country ridden over, the distance of riding at any one time, & the weather. There is scarcely any part of our country, in which a moderate & habitual walk early in the day, & in good weather, will fail of being healthful. It would seem that early rising in order to fulfil its high & noble indications, should be followed as far as practicable, with some out-door exercise. It may be thought unreasonable to require servants or labourers to expose themselves to the morning dews; & yet we cannot hesitate to make it a rule for every person to rise early, and in good weather take the morning air, & if practicable, perform some out-door exercise or labour. It

has been observed, that in the climate of the Southern border of the Union, and in the warmer months, the practice of sitting awhile by the fire early in the morning, is often found beneficial. We were acquainted with a man at the South, of plain manners, but good sense, who was uniformly in the habit of rising early in the warmer months, & sitting an hour or two by a comfortable fire.

The benefit of walking is promoted by the motion of the arms; and this is generally speaking, uniform, alternating with the motion of the lower limbs, & thus aiding to preserve the principle of gravity. The motion of the hands & arms, is more intimately connected with the general circulation

than some are aware. Hence we would employ the term rotatory as expressive of a peculiar motion of the hands & arms, (both hands being rotated upon the wrist) which we have known to be done, with great advantage; and, particularly, as it facilitates, through the circulation, the alvine discharge, & prevents the accumulation of foetid gas in the stomach and bowels. The theory of this consists, not only in the diffusion of more blood to a particular organ or tissue, but also in giving an additional & healthful velocity to the circulation. The circulation from various sources may become languid, and "when the circulation becomes languid," says an eminent Medical

author," the nervous & lymphatic systems, predominate."

Our attention will now be directed for an instant to the sitting & lying down postures. Many an individual of a sendentary habit, finds his health impaired by leaning over a low table, & by that unnatural posture that takes place in using what are called leaf chairs. The construction or character of the Thorax or chest, is such, that it will not admit of being compressed with safety. The effect produced in this way, resembles in some degree that of wearing Corsetts. It is wonderful to see how extensively this bad posture of sitting prevails among both sexes. We know not exactly how this matter stands,

in France and England, & other countries, but it is certainly a reproach to America.

In regard to the recumbent posture, the nature of beds generally, & the form of bed-steads, we would barely suggest a thought or two. Nothing is more manifest than that the recumbent position of ninety nine out of a hundred, is peculiarly unnatural and injurious, a position which produces more or less a stoppage of the circulation, & becomes at length quite irksome & painful to the muscles. How often is this practice accompanied with broken rest, terrifying dreams, & consequent ill-health. All beds of rest require only a moderate quantity of feathers,

and the bed steads should be elevated at the head so as to form a gently inclined plain. The French prefer the matrass (which may be made of hair or Spanish moss) and we cannot but hope that the example will be still more extensively followed, & consequently our good citizens will rest better, rise earlier, & become more healthy and hardy. There is good reason to promise ourselves much from the invention of India rubber beds for the sick & convalescent.

There is scarcely any thing more essential to good health, than regular alvine evacuations. The extent of the alimentary canal, its relations & connexions, as well as its peculiar structure, render it an

important article of consideration, both in health & sickness; and one, the pathological condition of which, demands as much from the tactus eruditus, as almost any portion of the system. We are not at all surprised, that the famous Broussais should make it the basis or primum mobile of his whole system. Its structure & position, render it liable to great & constant derangement. Although we firmly believe, that in nine cases out of ten, proper diet, regimen, & exercise, will secure the healthy action & condition of this canal, yet the disposition, habits & circumstances of many persons, are such, that when obstructions occur in this canal, —

a resort to purgatives becomes advisable. All know & feel the great evil of constipation, & few can fail to recognize its tendency to undermine the system. Accordingly we see one & another resorting to some means of removing the evil; & for want of proper knowledge & prudence, often make use of the most violent & acrid purgatives. Purgatives of the most drastic kind are often given (even by quacks) for no other purpose but to remove the indurated & offensive faeces. "A knowledge how to regulate the alvine evacuations," says the immortal Hamilton, "constitutes much of the prophylactic part of medicine." It may proper, he adds "on some occasions, to advise the

patient to re-trace the footsteps by which he has deviated from simple nature; & to court pure air, moderate exercise, & simple diet. When this does not remove costiveness, & the ills which proceed from it, the interposition of purgatives will be necessary." "A purgative," says another medical author, "is a medicine which operates more powerfully on the bowels than a laxative; stimulating the muscular, & exciting increased secretion from the mucous coat." The empiric has one or two sovereign purgatives, & no matter to him how violent the stimulus! All the virtue of his purgative is in its sure operation! He will at the same

time offer you a pill, which is so constructed (being altogether vegetable) as not only to be sure, but free from all inconvenience! This logic of his, is of a piece with that which expels every fever by creating a fire that will of course burn out the sooner, by an excess of fuel or stimulation! The common mistake in regard to purgatives lies mainly in not selecting that which is suited to the case, & not given in the proper dose. There is perhaps no one purgative, for & against which, so much has been said & written, as Calomel. Calomel, however, is proscribed by the Empiric! He calls it rank poison, & one that is sure to destroy life and health! We will grant that in

this instance, & for once he is deserving of some credit on the score of consistency. He is absolutely ignorant of the nature and operation of Calomel, & in his hands it becomes an edged tool, which should of course never be in the hands of the ignorant, prejudiced or insane. It is admitted by all experienced Physicians, that Calomel should be used with great caution, & be followed (except when given in very minute doses) with oil, salts, or some other purgative. The bowels of some persons require stronger purgatives than others; & all we have to add, is, that such persons should be doubly cautious in the use of them.

Finis

An

Inaugural Dissertation

on

Scarlatina:

Submitted to the examination

of the

Regents, Provost & Faculty of Physic

of the University of Maryland,

for the degree

of

M. D.

by

Saml. A. Harrison.

of Talbot Co. Md.

"Difficile est proprie communia dicere: tuque
Rectùs Musarum Carmen deducis in actus,
Quam si proferres ignota, indicta: primus."

February 20th 1843.

To

My Friend and Preceptor,

A. F. Dulin M. D.

this thesis

is respectfully inscribed.

S. A. H.

Scarlatina.

To define a disease is but to describe its symptoms — hence our inability to give a definition, which shall, at the same time, be satisfactorily complete, and sufficiently succinct — To say, that Scarlatina is a "fever, attended by a peculiar exanthema, and inflammation of the fauces", is as vague as it is incorrect; for, while we can form no definite idea of the efflorescence by the definition, we are led astray by expecting a tenderness of the fauces as an invariably concomitant symptom of the disease. And thus, with all attempted definitions, either exhaustiveness is purchased by prolixity — or brevity by insufficiency

Scarlatina has received its name from its pathognomonic symptom — a scarlet eruption or florid exanthema, which makes its appearance on the skin from the first twenty four hours, to four or five days after the commencement of the initiatory fever: and notwithstanding the tirade of Hoet: Good against the name, and his philological & pathological objections, it will doubtless be retained by the profession, as being beautifully expressive if not nicely correct. So excellent is the name

that the efflorescence from which it is derived, when completely developed is almost sufficient to distinguish the disease from all others.

In common with measles & small pox, scarlet fever seems to owe its origin to the East and appears to be a disease of comparatively modern date; for tho' some have fancied they saw allusions to it in some of the ancient authors, the passages to which they refer are too general and obscure, to justify us in applying them to the disease under notice. The Arabian physicians give the first distinct account of Scarlatina. (Good)

In regard to nosological classification, Scarlatina has been arranged with the Exanthemata, and comprises the fifth genus, of Willan (Cazenave) It has been differently classified by different authors; but the adoption of one system, or the reconciling of the discrepancies of them all would have little effect to augment our knowledge of the disease, improve our old practice, or lead us to the adoption of a new. While the peculiar eruption, and tenderness of the fauces distinguish it from the other exanthemata, the specific character of its fever, — its owing its origin to a specific cause

or combination of causes — the fever being the primary or essential disease, the eruption being secondary — the determined course of the disease unless interrupted by idiosyncrasy of constitution or accidentalis influences, "both in relation to the duration of its stages and the succession of its characteristic phenomena" — its contagious character — its power of destroying the susceptibility of the system to the subsequent influence of the peculiar contagion — and its power of suspending other exanthemes — all of which it possesses in common with the other exanthemata, justify us in placing it in that order of diseases, in which it has been classified (Ebrle)

Pathology of Scarlatina — With respect to the cause and intimate nature of Scarlatina — and indeed of all the exanthemata we are in a state of almost total ignorance. It has generally been acknowledged, that Scarlet Fever owes its origin to a specific miasm or principle, which seems to be much influenced by the hygrometrical & thermometrical changes of the atmosphere, which render it epidemic & vary the disease both as to its character and violence — phenomena at one time developing themselves ~~at another time~~ which are never seen at another (such as the general symptoms

without the eruption, or sine morbo) and the disease assumes a violence at one season, unknown in a former.* A previous attack affords immunity to the subsequent influence of the miasma tho' this has been denied by some writers — and their denial is founded on individual cases in which the disease has appeared a second and a third time. In short this principle possesses all the characteristics of the Exanthemata, with occult, and peculiar quality, which distinguish it from all other contagions. "Persons who have been affected with Scarlatina may propagate the disease during the whole period of desquamation, but in fact it appears that the contagion is most active at this epoch" (Cazenave) Age — predisposition, idiosyncracy, locality, and the constitution of the air have great influence in modify-

* The second opinion is not always the true one — and in this case the validity of the doctrine, of the contagious character of Scarlatina, admits of considerable doubt. Tho' many have suspected its truth, few have had the courage or temerity to call it in question. The many facts that have been adduced, where many persons have been exposed to the same supposed infectious principle, and a part escaped would certainly justify any one in opposing the doctrine. — To counteract all that is demanded on the ground of the weakness of the Contagious principle, and idiosyncracy of Constitution, & allowing all the advocates of the doctrine require, from the fact that many escape who have been exposed to diseases undoubtedly contagious — we cannot reconcile the anxiety that remains, with the doctrine of the contagious character of S. And when we add to this, the fact that all the phenomena "connected with the spreading of S. seem to be perfectly explicable on the ground of its being epidemic and not contagious", we should be led more strongly to suspect the doctrine of its contagious character. (Burns) But it becomes one like the writer to agree in all things with the "Conscript fathers" in medicine.

ing the activity of the contagion. Scarlatina may be epidemic at all seasons, but it generally appears in autumn & continues till Spring, when we have wet & follows be warm weather. The situation influences much the dissemination and violence of the disease — as valleys, or spots surrounded by woods, low and marshy districts, or in short any situation where the free circulation of the air is interrupted. According to the constitution of the air will be the type of the disease: thus if inflammatory diseases prevail, Scarlatina will partake of the inflammatory character; but on the contrary, if the morbid tendency of all diseases be low or typhoid, Scarlatina will assume the malignant character. Like many of the exanthemes it more frequently attacks children, tho' adults are by no means exempt from its morbific influence. It is said that infancy and extreme senescence have greater immunity than any other periods of life; it is more likely to attack females than males. Every epidemic assumes anomalous characters in these respects: thus at one time children alone suffer, at another it attacks adults only; it confines itself within certain ages, and seldom transcends its assumed limits. The tissues that appear most deeply & particularly involved in the disease are the mucous membranes — and skin —; but this must not be looked upon as the primary disease, but only as one of the phenomena of the constitutional disturbance. These tissues thus

out the system in one or very cases and more a less affected. The acrid discharge from the nostrils, and the ophthalmia dependant on the disease, clearly shews what tissue is affected in the nose and eyes. the inflammation of the fauces, is apparent and from its extreme violence in some cases S. Scalatina has received the name of "Putrid sore throat": the inflammation involves the trachea, the bronchi and subsequently the substance of the lungs: hence the pneumonic symptoms frequently present: the pharynx and oesophagus becomes affected, and then the stomach is attacked; hence we see the origin of the dysphagia and general irritability of the last mentioned organ: the inflammation extends also into the small and large intestines, which is announced by the tenderness of the abdomen and the diarrhoea which usually attends the disease: the bladder, and urinary organs do not fail to be visited - hence the scantiness and high-color of the urine, and the copious sedimentary deposit which makes its appearance about the period of desquamation, ~~which~~ is evidently the mucous membrane of the bladder detached by the inflammation.

These facts together with others that may be adduced it would seem, should be sufficient to satisfy any mind unbiased by preconceived theory, of the inflammatory nature of Scarlatina;

yet some there are, either from the prejudices of education, unwonted for antiquity or experience in a false practice, who contend that S. is an asthenic disease and regulate their treatment accordingly. But if our opinions of the nature of diseases are to be influenced by every fact, presented by any one, the doctrines of medicine will be as uncertain as those of theology where each one forms a creed of his own to accord with his prejudices or justify his wrongs. This difference of opinions may have arisen from the different lights in which the disease has been regarded. The advocates of the asthenic character of the disease have probably assumed S. Maligna as the type of the affection, where a tonic, or perhaps stimulating plan of treatment may be required, to support the flagging energies of the system; hence they have drawn their opinions, and as this has the founded their treatment of the other forms of the disease. But is it not more philosophical to assume the Simple, or the Anginose forms as the true type, and to consider the debility and asthenic symptoms generally as the result of previous phlogosis. Post Mortem examinations present different appearances, according to the inflammatory or congestive complications of the disease. In the Malignant form there is evidence of a depraved and broken down condition of the blood — putrefaction occurring rapid-

ly, and livid spots and wheals existing upon death. Purulent matter is also occasionally found in the joints, without traces of inflammation, but as if deposited directly from the blood" (Mannsell) All the mucous membranes will be found affected as has been noticed; and ulcerations have been observed in Brunner's and Peyer's glands, similar to those observed in typhus fever. Congestion will frequently be found to have taken place in the portal circle: the liver is engorged, and the spleen much enlarged. The vessels of the brain are congested, and sometimes evident marks of inflammation in that organ is visible. "The lungs sometimes are gorged with blood and easily torn – in some cases however their tissue is dense & solid, of a kind red and very firm and tough" (Bizzenard) Ulcerations of the palate tonsils and neighboring parts will not escape notice. Death frequently occurs suddenly, when the apparent nature of the disease could not lead us to anticipate so speedy a dissolution: in such cases post mortem examinations reveal nothing capable of causing death so suddenly.

Varieties of Scarlatina. Nosologists and writers generally observing the extraordinary difference between the mildest and most malignant forms of this disease have divided it into

when it has assumed a simply inflammatory character, and the inflammation is not directed to one part particularly they have denominated it S. Simplex; when the general constitutional disturbance is attended by a local inflammation of the throat, they have styled it S. Anginosa; and when the constitutional disease has a tendency to assume the low typhoid character, and the fauces and contiguous parts begin to ulcerate & slough, the term S. Maligna has been applied to it. It would be no difficult matter to prove that these varieties are but one and the same disease, modified by various causes, such as the constitution of the air, and the condition of the patient. But notwithstanding this division is so arbitrary it will be well to regard it; for the sanction of years is able to commit error into truth, and the deductions of philosophers are more imperative than the lessons of nature; he that would that would close his ears to the one, to listen to the instructions of the other is often considered heretical & schismatic, and becomes subject to the inquisition of professional censure. In treating of Scarlatina the symptoms & treatment of each variety will be noticed separately.*

* It has been proposed to divide the disease into the "inflammatory,

Scarlatina simplex. This variety of S. may be considered, as a simply constitutional disease, without any remarkable local symptoms — or as Sydenham terms "the mere name of a disease". It is ushered in by the usual premonitory symptoms of febrile diseases: transient chills, lassitude — loss of strength, pains in the loins and limbs, depression of spirits — fullness of the head, and irritability of the stomach, attended by nausea & vomiting. These, after having continued from one to three or four days — develop themselves into a well marked & decided fever. The pulse becomes accelerated, beating from 110 — to 120 strokes per minute —; the skin becomes hot — more so than in any other disease; the respiration is hurried & irregular; delirium and convulsions occasionally occur. These febrile symptoms all abate on the appearance of the eruption, which takes place generally on the second day after the access of the fever. The eruption is of a scarlet color, and has been likened to the juice of raspberries: it consists in innumerable red points, which running together form red, diffused spots on the skin. It first makes its appearance on the face and neck —; but the spots on

and "Congestive" forms —: this appears more philosophical, and would lead to a better practice, or at least, not lead astray. But it has not received the sanction of writers generally. (Maunsell)

coalescing form large patches over the whole body, leaving the intervening skin, in a perfectly healthy condition; in fact the red the color, a different red blush spreads itself over the whole body. The redness is paler in the morning, than at any other period of the day, and assumes its brightness, towards the evening, when indeed all the febrile symptoms are aggravated. This redness disappears on the pressure of the finger, but speedily returns after the removal. On the third or fourth day, the eruption is at its acme, after which time, it begins to decline, unless untoward circumstances interfere with the prescribed course of the disease. The sebacea glands or papillae of the skin, become somewhat enlarged, which imparts a slight roughness to the skin, but far than this there appears to be no elevation of the integuments, tho' occasionally miliary vesicles or papulae make their appearance, especially after a stimulating treatment or diet has been employed. The eruption does not confine itself to the superficies of the body, but extends to the mouth and fauces, which present the characteristic scarlet color: hence the soreness of the throat and dysphagia. The tongue becomes covered with a white fur, which contrasts strongly with the scarlet papillae which project through it. The lips & edges are also

scarlet. The eye lids and nostrils clearly show that the eruption has extended to them, by the increased flow of tears, and mucus, together with the redness, which is so visible. On or about the fifth day, the eruption begins to decline, and by the second, but little remains to show its character. With the eruption the other distressing symptoms decline; the pulse becomes less frequent, the heat abates, the copious deglutition of pus ceases, disappears, and the cuticle begins to desquamate, attended by a burthensome itching. It is said, to peel off frequently during the course of the disease, in some cases, but this is infrequent. The urine at this period deposits a copious red sediment, and a diarrhoea sometimes, tho' rarely in this form, supervenes.

Scarlatina Anginosa. This rarely combines with the highly aggravated constitutional disease; a violent local inflammation of the throat. It might have been treated of with propriety under the last form, as the symptoms are much the same but exalted in degree and violence, with angina superadded. This form of the disease arises from a greater concentration of the miasm, or infecting principle, — a greater predisposition to disease, — a peculiar constitution of the air — or neglect or ill treatment of the simple form. The premonitory symptoms are much the same as those of the last variety, but somewhat more severe. We shall observe ~~the~~

the usual chill, the lassitude, the stiffness of the joints, the indisposition to move, the cephalalgia, and the irritability of the stomach before mentioned: and if the fauces be now examined, the tonsils, palate and uvula will be found highly inflamed; indeed before there is any decided intimation of the approach of the disease, a stiffness in the neck, and soreness at the angle of the jaws will be observable, from the complaints of the patient. These precursory symptoms will speedily be followed by febrile reaction of the most violent character: this takes place earlier than in S. simplex — on or about the second day, but it regards no law implicitely in regard to time. The pulse will be found beating 120–140 strokes per minute — but not so tense & full as in the former variety. The skin becomes exceedingly hot — it has been known to assume a temperature of 112° F. Delirium active or passive sometimes attends. The thirst is urgent. The tongue is coated with a white fur evidently; around its edges this floats, and the inflamed papillæ may be seen studding its surface: in the latter stages of the disease, the tongue becomes dark colored, and the teeth are covered with sordes. The anginose symptoms speedily make their appearance. The voice becomes hoarse, and croupy; the respiration is attended by a sense of constriction in the throat, with a feeling of suffocation.

a viscid mucus is secreted by the lining membrane of the trachea, which accumulating on the tonsils palate, uvula and adjacent parts, presents the appearance of ulcers - with ragged edges, but suitable ulcers seldom make their appearance till the later stages of the disease, when they become a source of painful annoyance to the patient. Deglutition is difficult and painful, so much so, that often the food is ejected thro' the nostrils in an attempt to swallow. The eruption appears much later in this form than the last, and often it has appeared, frequently recedes, and again appears at irregular intervals. The appearance of the rash is attended by an alleviation of all the distressing symptoms, and tho' its disappearance is marked by no remarkable aggravation, the disease in such case is usually protracted, and the convalescence irregular. It has been quaintly if not truly remarked, that the "Eruption in point of fact, ought to be regarded as a natural blister, acting as a natural counter-irritant." (Gregory) About the period of the eruption deep & fatal coma frequently occurs, showing a congestive condition of the brain. Congestion and inflammation of some of the abdominal viscera, often supervenes, marked at first by slight tenderness of the abdomen - quick pulse and hurried respiration.

but these symptoms increase in violence, attended by vomiting and gaseous eructations. In a few days the intestines grow to lose their exquisite sensibility - the pain abates, but a universal collapse ensues, and the patient expires. Or on about the seventh day, the eruption disappears - the temperature of the skin becomes lower, the pulse is less frequent and is more voluminous - the head loses its fullness and the stomach its irritability the inflammation of the fauces terminates in resolution -, or the ulcers slough and granulate - the respiration becomes easy and regular, and deglutition less painful - desquamation takes place - regularly or irregularly - the red sediment in the urine becomes more copious, & finally the patient recovers. A tenacious diarrhoea may trace the patient for some time - treatment for which will be noticed hereafter. The termination is frequently less favorable.

Scarlatina Maligna. This variety of S. unites the highest grade of the constitutional disease, with local symptoms indicative of the most exalted form of inflammation. While the whole system is consumed with fever, the throat is swollen to suffocation, or the adjacent parts are eaten up with ulcerations. This variety of S. has been divided into the "Inflammatory" and the "Congestive" forms - and indeed with much more

propriety than modern writers generally exhibit in their divisions of diseases. Some have considered the "Inflammatory" form as little more than an exalted consensual form, and there appears to be no objection to this arrangement, except that it lacks authority.

The accession of V. Malignus Inflammatoria is rapid in its advance, and sudden in its onset, after the system has been brought under the influence of the contagion. The premonitory symptoms are transient though violent, and the disease is ushered in with impetuosity. Indeed, these symptoms give place to others so quickly, that frequently they appear to be entirely absent. At other times, the peculiar symptoms appear and continue mild for several days, when suddenly the disease developes itself in all its horror. The pulse is as rapid, in the forming stage as in V. Malignus, but not so tense; afterwards it becomes less frequent, and loses its volume. The heat of the surface of the body is irregular. Delirium, coma and convulsions supervene. But from the highly aggravated character of the local symptoms, our attention is particularly addressed to them. Early, even before decided marks of the constitutional disease, have become apparent, the neck becomes stiff and sore at the angle of the jaw; and the glands about the same region will be found enlarged & indurated. The parts that

make up the cavity of the fauces, on examination will be found highly inflamed, and presenting a red rather than a scarlet color, or ulcerations may have already begun. These spots of ulceration will be more distinct after the disease has progressed farther: they then will present a whitish gray which soon assumes a dark brown hue, and if the fever and inflammation continue for a few days, they become "black and fetid sloughs. When the inflammation is at its height, the mucous membrane of the trachea throws out an exudation, which forms a membrane, similar to that formed in cynanche trachealis - that gives the voice a croupy sound. The respiration is oppressed and painful - from the viscid mucus secreted by the bronchi, and from the inflamed condition of the lungs. The breath of the patient becomes offensive from contact with the ulcers of the fauces - When the ulcers begin to slough, they discharge an acrid sanious fluid through the nose which excoriates the already irritable nostrils, and all parts of the skin with which it comes in contact. The urine is scanty & high colored: frequently dark and offensive stools are passed off - or a troublesome diarrhea supervenes - especially does this occur in the latter stages of the disease. The

eruption is generally much longer delayed than in the preceding varieties, and instances have been known where fatal collapse has taken place, without the slightest eruption having been seen. When it does appear it is not diffused and regular on the whole surface of the body, but in broad ill defined patches, which, rule at first, assume a scarlet color, and finally a red or brown hue, somewhat similar to the discolorations from secondary syphilis. The eruption frequently appears and disappears as in S. anginosa — and the similar effects follow its appearance - viz. a mitigation if not the removal of the most annoying symptoms: but the local affection advances with unretarded or accelerated speed.* If the disease be allowed to progress, as it will generally unless relieved for seven or eight days, the following category of symptoms will be presented. The pulse is accelerated if possible

* That is a singular and admirable action of the system, by which the internal circuit congestions are obviated, by diverting the blood from those seats of the soul, to parts of the body most capable of enduring the burden viz: the skin and mucous membranes: from this we are inclined to accord a reasoning faculty to that vis naturæ of which the older writers speak. Indeed looking at the natural history of S. the absurd notion of the old humoral pathologists becomes less objectionable; that disease is the effort of nature to cast out of the system, an offensive matter, that hinders the proper discharge of its functions — thus they would explain the phenomena mentioned above, viz. the mitigations of the symptoms &c. on the appearance of the eruption by contending that the efflorescence is the result of a successful attempt on the part of nature in casting the deleterious humor from the seat of her vital operations into the skin or mucous membranes, there to remain till removed by the proper apparatus.

the eruption assumes a dark red color and petechiae, and seen on apparent parts of the body especially on the abdomen, within the patches of the efflorescence. The ulcers of the throat become dark & gangrenous, and extend their ravages to the adjacent parts. The system overcome by this accumulation of evils sinks into a collapse which is too generally but the precursor of death. This is not invariably the case – an active treatment & vigorous constitution, will sometimes master, or overcome the disease, and restore the patient.

In general it may be said, S. Malignus Congestiva owes its origin to neglect or ill treatment of the preceding forms; but not unusually so, for it has appeared epidemic, where in any case, a congestive tendency is observable. And indeed this is seen from the very onset of the disease, when, if there be any inflammatory symptoms they are so transient as to pass unnoticed: this also has taken place, when S. was uncomplicated with any other affection – unless a predisposition of the system from an unfortunate locality or constitution of the atmosphere, be considered a disease.

This modification of S. Malignus is ushered in by symptoms, similar to those introductory to the inflammatory

vanity, but instead of a well marked fever being established, reaction fails to take place, and typhoid symptoms ensue. The pulse loses its former celerity & fullness and becomes preternaturally slow irregular & depressed; the respiration is hurried and quick but not full, or slow & depressed. The countenance assumes a livid pale hue - and extreme anxiety is painfully depicted, the eyes are dull, acquiring a fatuitous or intoxicated expression: as the disease advances the anxiety of countenance is lost, & indifference akin to composure takes its place: "the mind at first alarmed, confused and depressed, becomes disordered by delirium, and a stupor succeeds under which the patient frequently expires." The tongue is loaded with a brown fur, or is unnaturally clean and of a fiery red color; in the later stages it becomes black. The eruption is usually retarded, sometimes indeed not appearing at all, or appears at irregular intervals and disappears; it is usually pale in the first instance, but becomes darker and of a livid or copper color. Ulceration of the fauces comes on early in the disease and progresses with great rapidity: the ulcers present a foul ragged appearance, with an obvious tendency to sloughing

of the whole mouth; in the latter stages of the disease, they become black and extremely offensive. The ulceration extends to the nose from which an acrid, sanious fluid is discharged which excoriates the nostrils and lips, and even (says Van Swieten) the fingers and arms of the nurse. The disease progresses. The voice becomes hoarse and hollow: the trachea becomes choked up with a viscid mucus, and strangulation constantly threatens the sufferer. The intestines become involved, and a diarrhœa or dysentery is the result: a serous mucous discharge, sometimes mixed with blood takes place* Colliquative hemorrhages from the nose, mouth, lungs & bowels mark the latter stage. Petechiæ, similar to those seen in typhus, and gangrenous spots make their appearance on the skin: ulceration of the bowels sometimes occurs. The cerebral disorder becomes more striking; collapse ensues — and this with the general disorganization, or interruption of function, of the organs of organic life causes the dissolution of the patient. This form of the disease is not usually protracted — running its course in from to six

* Cullen has attributed this phenomenon, to the irritation caused by swallowing the acid matter from the ulcers of the fauces — but is it not more reasonable to suppose it to be caused by the congestion of the vessels in the mucous membranes, which seek to relieve themselves by an unusual secretion of mucus and the pouring out of serum. The blood is the result of ulceration action.

days, and its termination is generally death. Yet this unfortunately is too often its result, cases do occur in which the patient recovers. The exhaustion of the throat becomes limited, and all the distressing symptoms connected with the local affection of the throat and respiratory organs abate and disappear. The vascular system recovers its tone, the cerebral disorder is replaced by consciousness – in short the system reacts and the functions of the whole body are gradually restored to their normal action.*

Diagnosis. In the incipiency of Scarlatina there is no symptom sufficiently characteristic to distinguish this disease from any other fever; and after it has matured we are apt to confound it with Rubeola and Roseola. In general we should suspect its presence, when we have a knowledge of the prevailing epidemic, and meet with general febrile disturbance, with soreness about the angle of the jaw and of the fauces. From Measles we may distinguish it by the earlier appearance of the eruption – say on the

* There is another variety of the disease mentioned by Stoll: Febris which he designates by the name of S. Faucium. It is distinguished from the former varieties, in that it attacks adults only, or those who have passed thro' the other forms of Scarlatina – the efflorescence being confined to the mouth and fauces, while the skin remains apparently unaffected – the desquamation of the cuticle is frequently one of its consequences. It is attended by much constitutional disturbance, and distressing local symptoms, similar to those mentioned above, in the throat. It is also said to be capable of communicating itself by contagion or infection, and of producing the other forms of Scarlatina (Mackintosh)

second day, while in the latter disease not till the fourth or fifth: also by the character of the Eruption; in S. it is more diffused, it is in irregularly shaped patches, not raised above the surface - it is of a bright scarlet (raspberry) color; in R. it is in regular crescent shaped patches, unequally diffused - covered with little "circular dots", rough and raised above the surface - it is of a darker hue, than that of scarlet fever. The soreness of the throat in S. and its absence in R. should give us grounds to form our opinion. To these we may add some negative signs - The epiphora, the profuse lacrymation, the inflamed eye-lids - the intolerance of light, the coryza - the sneezing, the hoarseness of the voice the hacking cough, and other catarrhal symptoms, all of which are present in Rubeola, and absent in Scarlatina, will give us more data to form our opinion upon. The sequelæ of the two diseases are very different. The eruption is the best diagnostic criterion to distinguish S. from Rosiola. In the latter it is more permanent, and more generally diffused: it is darkened, as it ever, from second or natural skin, while the papillæ of S. make their appearance on the patches of efflorescence. The grade of fever is much higher in the latter than in Rosiola; and the extension of the eruption to the fauces is peculiar to Scarlatina

Prognosis. Scarlatina is at one time the mildest of ailments that assume the name of disease, and at another the most violent and fatal of all maladies. Our judgment should always be influenced by the character of the prevailing epidemic, for in the first stages of a given case, the symptoms may be of the mildest grade, and subsequently be developed into alarming violence. In general a moderate febrile reaction with a copious eruption is desirable, - but excessive reaction is as much to be deprecated as an undue deficiency. A copious bright red eruption, appearing at a proper time is a favorable sign; but a scanty and livid eruption, much retarded augurs ill. The affection of the throat may be looked upon as a measure of violence & danger of the disease. In the simple form we may generally prognosticate favorably unless the disease be complicated with some other affection, or unless some of the sequelæ are brought on by exposure. In the anginose form, we have more reason to withhold our decision - but when the eruption makes a speedy appearance, and is copious we may hope for the best with good reason - but if the contrary be the case, the visceral congestions, and local disorganizations will be apt to ensue when we may have a hope for the best, but with but a slender "hope."

Besides the sequelæ of this form are more dangerous and invariable than in the other forms - from this source we anticipate the worst consequences. If our prognosis is gloomy in S. Anginosa this yet more so in the Malignant form. We must be prepared, in encountering this disease, to see ourselves foiled in our best treatment, and disappointed of our fondest hopes. When the symptoms mentioned before under both forms of S. Malignans continue unabated, and increase in violence, we may expect death as the consequence - but if they all lose their violence and one by one disappear, we may expect a fortunate consummation, unless our patient be carried off by some of the sequelæ, which will often occur notwithstanding our most anxious care & vigorous treatment. In this form we can only prognosticate favorably, when our patient is well. S. is generally more mild with children than adults, except during the dentition of the former, when it is unusually severe. Strong robust persons bear the disease better than those of a relaxed lymphlegmatic habit of body. It is especially severe in persons of a scrofulous diathesis. Pregnant, and puerperal women are especially obnoxious to the disease. When complicated with other diseases, it is of course more dangerous, than when simple.

Treatment. In the various forms of Scarlatina, we have one of the mildest, and one of the most severe, one of the most fatal and one of the most intractable of diseases. In the simple forms we meet with an enemy imbecile and insignificant; in the malignant a foe powerful as it is formidable: the former capitulating on the weakest and most inefficient attack, but the latter, when it has seized the citadel of life, holds out against the most ingenious and best directed escalade, and listens to no terms except those of its own dictation;—terms no less humiliating and harsh than the surrender of the whole system to its ravages. Unfortunately for us the treatment of S. is not so well established and known as its natural history: while all agree in the last, there are scarcely two who concur in the former, yet strange to say, every one boasts of distinguished success in the treatment of the disease, whatever may be his theory, or his practice. So those who have no judgments of their own, but use those of others, can only exercise their preference, a partiality.

The treatment of the simple form should partake more of an active than a passive character. The disease has, like

the other exanthemata, a determinate course, and nothing we can do, can arrest it in limine, or shorten its duration a moment; but we can by officiousness increase its violence and protract its continuance. Our treatment should be, then, merely prophylactic, in order to prevent any untoward complications. We should direct our attention chiefly to the regimen and diet of our patient, and make our therapeutic measures secondary. The patient should be protected from any sudden vicissitudes of temperature, but our anxiety should not lead us, to stifle him in an illy ventilated apartment, or to smother him with bed-clothes. Cool acidulated drinks may be administered, but the diet should be of the strictest antiphlogistic kind: the absurd notion of giving stimulating drinks to drive out the eruption when retarded, is as absurd as it is mischievous; the eruption will appear at the proper if the disease be uncomplicated, and if it do not, stimulants are far from being the proper treatment in such cases. If the throat become troublesome a slightly astringent gargle may be used, such as a cold infusion of sage or green tea - a solution of alum with honey, or a decoction of Uva-ursi in some pleasant menstruum.

but we should appear to be doing nothing for the patient, we may deliver ourselves from the imputation of a want of diligence; and at the same time be doing the patient actual service by administering an Emetic: it acts by freeing the throat of a viscid mucous, while it relaxes the skin, promotes perspiration, and prevents visceral congestions, by equalizing the circulation, which it does by diverting the blood from the internal organs to the capillaries of the skin. Wine of Ipecacuanha, or Tartar Emetic may be used, of which the latter is perhaps the best on account of its permanent, and diaphoretic tendency. A cathartic may be used with advantage, which while it frees the bowels of any offensive matters, aids the emetic in preventing serious congestions. Calomel has the decided preference, and if the liver be affected, which is frequently the case, there is no other remedy, we can use with so much advantage. This is the extent, and we farther to which we can push our remedies, with impunity, in the simple form. When a tendency of blood to the head is observable we may use the lancet, and apply cold applications to that part. When the inflammatory symp-

toms are bright red effusion, so opening will be useful; but this will be noticed hereafter.

The anginose variety, requires a more active treatment, proportionately as the symptoms are more violent. The same rigid attention, that was directed in the last mentioned form, is to be paid in the one under consideration, to the regimen and diet: and the more strict should it be, since the comfort of the patient, and the success of our remedies may much depend on the observance of these rules. However authorities may differ in the treatment of S. anginosa, they all concur in one point, viz: the administration of an Emetic at the very access of the disease; and all equally agree that it would be absolutely hurtful, if exhibited in the later stages. The mode of its action has already been spoken of - and also, the articles which hold the preference. But as to the use of Cathartics in this form, there is a greater diversity of opinion. Some look upon our evacuation, but as precursory to a fatal diarrhoea, and direct all their efforts to its prevention, while others who look upon a diarrhoea with

equal honor, active purgatives the most efficient means to prevent such a deprecated symptom, by removing any noxious concretions, which may irritate by their presence, the bowels, and by depleting immediately from the inflamed mucous membrane. This latter comes to be the prevailing practice — It is not necessary, to purge to such an extent, as to impair the strength of the patient; two or three evacuations per day, can be borne without inconvenience, and with decided profit, by the patient. If cerebral congestion develops itself, a more active cathartic may be employed. Calomel has received the preference by all practitioners. There is no remedy, employed in the disease, on which we can put so much reliance, as the application of cold water to the surface of the body: its beneficial effects are so extensive and so constant, that we should be accused of unpardonable neglect to omit its application. Under its influence, the high febrile symptoms abate in violence, the pulse loses its frequency, the skin its intense heat, a delightful perspiration breaks out (and indeed, this remedy is capable of producing a perspiration when all others fail) the

central disorder is mitigated, the countenance becomes cheerful, the eruption appears copiously, and a repulsing stage follows. Some cautions are necessary in its employment. We should be careful not to apply this remedy when the temperature of the body is below the natural standard; nor to continue it so long as to cause the patient to complain of chillness. We may use it in the form of a bath, or by dashing the body with cold water, or by sponging the whole surface: the latter has many advantages over the other modes. It has been proposed to apply tepid water in the later stage or even after the third day, but there is no actual advantage in employing warm affusions, and there is no risk in employing the cold, provided the proper cautions be observed. There is much difference of opinion as to the propriety of using the lancet in this form of the disease. Some look upon debility as the natural consequence of the loss of blood, while others look upon venesection as the best mode of preventing that symptom. When, however, symptoms of visceral congestion and inflammation become evident, our prejudices must

not deter us from the use of the lancet: and in cerebral complications, there is no remedy half so efficient. In epidemics which have a highly inflammatory character, we need not wait for symptoms which positively call for venesection, but we may bleed in the first stages, confidently expecting inflammation unless it be prevented by our remedial means. In the latter stages of S. when the system is falling into a collapse blood-letting is certainly contraindicated. Cold to the head and sinapisms to the feet, may be used in conjunction with the above remedies, but blisters and leeches are of doubtful efficacy, and perhaps hazardous. There are some local applications to the throat which deserve attention. Leeches at the very incipiency and very useful, but from the dissolved condition of the blood which would prevent the healing of the bites, and the obvious tendency to gangrene from all injuries about the neck, their employment must be used with great care. Astringent gargles are less dangerous of not so efficient as leeches in the incipiency of the inflammation. We may employ sage tea & vinegar - alum and honey, or "bar-

by water and honey, acidulated with vinegar or a half drachm of muriatic acid to an eight ounce mixture. When the fauces and air passages are coated by the shreds of coagulable lymph, and the ulcers in the throat and fauces, an emetic is the best gargle, giving most ease to the respiration and cleansing the ulcers better than any application we can make; in addition to this a stimulating gargle may be employed, such as may be prepared from "five ounces of the Inf: Roses, one ounce of Honey, and one drachm of Capsicum" The "Black wash" is recommended by some. The inhalation of the vapor of vinegar is said to afford decided relief.

Convalescence will frequently be protracted, from the extreme debility in which the patient is left by the disease: we should not therefore be hurried into the administration of tonics & stimulants — the only tonic admissable is wholesome food, the only stimulant gentle exercise in the free air. The most unfortunate sequelæ follow from an undue exposure of the patient to the vicissitudes of temperature, and though there is no probability of a return of the disease, incautiousness may bring no consequences to be deplored.

As the symptoms of the inflammatory form of S. Malignans, differ so slightly from those of the Anginose variety, its treatment must be very similar. In this form the febrile reaction is so violent, and the evidences of phlogosis so apparent, that no one can hesitate to deplete. We may, therefore, in the very incipiency of the disease, after an Emetic, and Cathartic have been given, for the purposes before mentioned, draw blood from the arm; the quantity of venesection to be regulated by the judgement of the physician. These remedies are the more imperatively called for, as in almost every case, evidences of cerebral or visceral congestions are present. An cathartic may be of the mulsein character, that, while it depletes, will divert the blood from the head. The application of cold water must not be omitted, and especially if this remedy is to be used, when the brain becomes affected: ice, or ice water may then be applied to the head, with marked benefit. Counter-irritants & rubefacients cannot safely be employed, from the highly phlogosed state of the system, and the obvious tendency to gangrene. The same regard to regimen & diet, already insisted upon, must be paid, and with the more scrupulousness, as the case is the more urgent. Water acidulated with the mineral acids will be grateful and profitable to the patient. (Good)

The congestive form of Malignant cholera owes its origin to the inflammatory form, or also is evidently phlogistic in its first stages, when we must regulate our treatment so as to suit the state of the system: but, not unfrequently, the inflammatory symptoms are so transient as to appear entirely absent, thus the peculiar marks of congestion become evident from the very access of the disease. Hence, we should be decided and prompt in our treatment of this stage, for haply we may change a disease in the birth that will prove a monster of our fail. We may therefore in the first stage, administer an antimonial emetic and a mercurial purge — we make use of the other appliances as detailed in the Angeine variety. It would be hazardous to bleed, in general, but the propriety of this measure must be settled by the judgment of the physician, a judgment to be formed from the particular symptoms of a given case. These measures may be pursued till decided symptoms of congestion develope themselves, when they must be slightly modified. While we continue to keep the bowels open with laxatives, or indeed with the more powerful cathartics, we must lay aside our emetics as causing a too great afflux of blood to the head, and also our lancet, as being a useless if not a dangerous instrument in this

form, from the debility which it induces. But while we hesitate to deplete freely, when collapse threatens we must not be hurried into the use of stimulants. When the head is not particularly affected, a diaphoretic nauseant, such as a very minute dose of Tart: Emetic may be administered. To support the flagging energies of the system, tonics and the milder stimulants may be used: of the latter remedies, the Carb: Ammonia (or Sesq: Carb:) has the preference, which while it is slightly stimulant & promotes diaphoresis, does not quicken the pulse (Good) "In the form of a subcarbonate it should be given in doses of a half or a scruple dissolved in half an ounce of water, every three or four hours" This remedy while it acts constitutionally has a decidedly beneficial effect on the local inflammation of the throat (Good) Stoch: Dewees speaks in the warmest terms of commendation, of the internal as well as external application of Capsicum. Frictions on the surface of the body may be made, rather with the warm hand, or some slightly irritating article, such as the Cayenne pepper. This directs the circulation to the surface, and has not the objections that cling to counter irritants & vesicants generally. Cold or tepid affusion may be used according to the condition of the patient.

Local treatment of v. Maligna. When the inflammation of the fauces is first drawn, there is no one application to be made half so efficient as leeches about the front affected, tho' it is hazardous in the extreme: for besides the risk we run from gangrene of the parts adjacent, there is an additional danger from the dissolved condition of the blood, of losing too much of that fluid. Many persons have suffered serious inconvenience, and indeed some cases are related where children have died to death, from the constant oozing of fresh bites. However excellent, therefore, may be this remedy, the prudent practice, at least, not to employ it. Similar objections may be urged against the employment of blisters, tho' they are strongly recommended. The same astringent gargles that are directed in the Anginose variety, may be employed in the Malignant: but when ulceration has taken place, more stimulating gargles must be resorted. The Barley water more strongly acidulated with the mineral acids, than that prepared in the former variety, may be used. Rymel and lime is respected (Good) Black wash as an antiseptic is recommended. Doct: Dewees speaks in the most commendatory terms of Capsicum as a gargle in the worst forms of ulceration. When the

ulceration is spreading, and shows a disposition to slough the Sulphate of Copper, or Sulphate of Iron in a strong solution may be applied directly to the parts. To touch the surface with Nitrate of Silver, or Caustic Potash, will frequently change the appearance of the sores. Fumigation by Nitrous Gas has been strongly commended. Doct: Johnson says, mustard are the best gargles, cleansing the surface of the ulcers, and freeing the fauces of the strips of coagulable lymph. Care must be taken, however, not to employ them when there are evidences of visceral inflammation or a great tendency of blood to the head.

Sequela. Scarlatina is frequently followed by some of the most troublesome, and sometimes disastrous sequela; which when the patient has apparently recovered, cut him off, or leave him afflicted for life, with the loss of one or more of his senses. The most common sequence of the disease is dropsy, in one or both its forms ascites or anasarca, but the latter form is far more frequent. Some have attributed this to a half quenched inflammation, to an undue exposure to cold, or to extreme debility: these undoubtedly do cause such a result, but a different and additional cause may be adduced, viz: a congestion in some of the large vessels of the ab-

dominy as the portal circle for instance. This must be treated as other dropsies, by the employment of venesection if phlogosis be present, by the use of hydragogue cathartics, of which calomel either alone or combined diminish the pressure, by the administration of some diuretic, as squill or Nit. Pot. unless inflammation be present, when diuretics may be used instead, and by the application of bandages to the parts distended. Oedema of the lower extremities may be remedied by friction & bandages. Pneumonia not unfrequently results from S. a sequence which cannot be too deeply deprecated; for in the weakened state of the patient, we cannot safely employ the usual antiphlogistic applications, and with the constitution undermined as it is by previous disease, this sequel too often carries the patient off. It is to be treated as all inflammations of the lungs connected with debility. The inflammation not unfrequently extends to the Eustachian tube, and is sometimes followed by ulceration: this either impairs the hearing temporarily or destroys it for life. We can do very little in this case. In the incipiency we may employ astringent injections - but with little hope of any success: after the inflammation has subsided, the hearing may be impaired by some concrete matter in the tube - we may then wash it out with warm water. Ulceration of the parotid, takes place after malignant cases:

unfortunately we can do little but pity the patient, and deplore his fate.

Prophylaxis. Some years ago, Belladonna was proposed as a prophylactic by Hahnemann of Germany, and many intelligent men have since given their credence in his opinion: but of late the notion has been entirely repudiated, and placed among the visions or fancies of that celebrated empiric. It can do no harm however to administer it, when S. appears epidemically, in families schools &c: as tho' said by some men at this time to mitigate the violence of the disease if it do not entirely prevent it. We may employed it in form of a tincture, administering six drops to a child six or eight years old & continuing it 10-12 days. (Pazmard) as little confidence can be placed in it as a remedial, as a prophylactic agent.

Essay on
The studies of a Physician
Submitted
To the faculty of Medicine
In the
University of Maryland
Session of 1843-4
By
John F. Councilman

To Samuel Chew M.D. Prof. of Mat. Med. Therapeutics and Hygiene in the University of Maryland.

Sir,

In testimony of the respect I entertain for the people of Calvert, allow me to dedicate this imperfect essay, to one, of whose reputation they are justly proud.

With sentiments of esteem
I have the honor to be
Very Respectfully Yours
J. T. Connelman

"What and how much shall we study?" asked Prof. Riby in one of his preliminary lectures on the theory and practice of medicine. The question is one of intrinsic importance and particularly worthy of the investigation of the physician in the outstart of his professional career. The traveller proposing a visit to a foreign country first sits down with his map before him, and carefully notes the places of most interest to himself and then arranges his route so as to compass the whole in the most expeditious and comfortable manner. So may the student of medicine be materially assisted if in the outstart he takes a comprehensive view of the objects to be attained and of the best means of attaining them. These considerations have induced me to select as the subject of my thesis the question at the head of the page. Hoping thus to render my lucubrations at least profitable to myself, and when there is no possibility of benefitting others selfishness may be a pardonable motive. It may be comfortable hereafter to remember, that not unmindful of my duties I have diligently endeavoured to ascertain by what studies I might best qualify myself for their discharge. "What and how much then shall the physician study?"

Cicero declares that orators should be well

versed in all kinds of knowledge. As the physician likewise there is no doubt that all kinds of knowledge would be valuable to the physician likewise, either in itself or as tending to illustrate some other important point. The physician whose mind has long been schooled in mathematical investigations, who has acquired a habit of attention to minute distinctions and accurate analysis from the study of ~~analysis~~ languages, caeteris paribus will reason better at the bedside than one who possesses no such advantages. He to whom history, philosophy and polite literature have revealed the springs of human action will more readily appreciate the motives that lead others to deceive him and the causes which prompt him to deceive himself than one unskilled in these studies.

The various branches of natural history are in fact practical lessons on the art of diagnosis, the most important and certainly the most difficult part of practical medicine. In botany for instance what nice discrimination it requires to refer one plant to its proper genus and species! What nice attention must be given to each organ! How many and varied the elements required to solve the problem!

This is the very kind of culture required in the every-day practice of the physician, and all these studies inasmuch as they tend to develope and cultivate the faculty of observation upon which all success in medicine depends are eminently useful. Yet we must remember the words of the poet.

"Fugit interea, fugit irreparabile tempus"

There are many skilful practitioners who know nothing of these matters, though a knowledge of them greatly increases the chances of becoming eminent. Whoever, therefore, has fortune genius and leisure will do well to learn all these things, but we cannot insist upon them as absolutely indispensable to the study of medicine. There are, however some studies absolutely necessary to qualify the physician to commence the study of his profession with advantage. Among these we reckon a-natomy, not indeed that minute knowledge of it, the acquisition of which is spoken of as costing twenty years of time and labour. If upon this principle he should make his studies equally minute in the other departments of the science of medicine, he would consume his allotted three score and ten, before he commenced what is properly called the art

is so much indebted is founded upon a knowledge of the healthy structure. Something too must be known of chemistry for without such information there is constant danger of nullifying prescriptions by mingling incompatibles. Liebig's labours in unravelling the arcana of the human system by the aid of chemistry have turned the attention of the profession towards this science with anxious expectation. Prout has shown that diagnosis may receive important aid from its principles, while its relations to forensic medicine and materia medica would alone entitle it to a share of attention

As no one unskilled in the use of weapons would go forth to battle, the physician would scarcely think of encountering the dire enemy of mankind, without having previously acquired a knowledge of materia medica. If now we add a knowledge of the great principles of medicine as laid down by her master spirits in the classic works of our science, we have included every necessary preliminary to the study of what is properly called, the <u>art</u> of <u>medicine</u>

Strange as it may seem we often meet with those who contemplate nothing further than these introductory studies — who fondly im

agine — as they walk forth dignified by the laurels of a diploma, meditating perhaps the words of Horace "Nunc est bibendum" — that the period of toil and drudgery is past — that henceforth for them is reserved smooth paths and easy journeys, where the thoughts of labour past but gives zest to present enjoyment as the remembrance of winter increases our delight in the warm sunshine of spring. These are the geniuses "fugax consumere nato" we leave them to reap the sure reward of their course the bitter fruits of disappointment.

There is another class and we regret to say a numerous one, who talk very loudly about keeping up with their ~~profession~~ science and depend altogether upon its periodical literature to enable them to do so. They would deem it almost a sacrilege to spend their precious time in the perusal of standard authors after leaving the shrills of their alma mater. The fruits of their desultory method of study are exhibited in a vacillating practice.

At one time we shall find a disciple of the periodical school discarding principles established by ages of laborious induction and adopting the crude notions of some fledge-

ling practitioner, who anxious to get his name in print has started a theory and supported it by some half dozen plausible cases. At another time we shall find him curing consumption as the butcher does his pork by salt. To-day he prescribes Iodine in all cases, to-morrow declares it worthless and thinks the Hydrocyanate of Potassa worth all other remedies. This sovereign article he carries in his pocket exhibits nothing else to his patients, recommends to his friends in consultation and if they venture to suggest its inappropriateness to the case in hand, he treats their opinions with contempt, and proscribes them as ignorammuses whom the onward march of science has left far in its rear. Thus he goes on in a course of blind empiricism, till he is gradually relieved from the toils of practice by the receding confidence of the community. I do not mean to undervalue periodical literature, I merely wish to say that no one can properly appreciate it or even read it without injury, who does not at the same time throw about himself the conservative influence of standard principles. He should then read standard authors and not neglect periodical literature; Thus we shall at once guard ourselves against the unphilosophical error of

adopting opinions founded on facts too hastily generalized, or too few in number to sanction the conclusions to which they lead as well as the opposite one of insisting obstinately on exploded doctrines.

The study however, which the physician is to regard as the foundation of all success in his profession is the observation of disease and the effects of remedies at the bedside. If the science of medicine is ever to be perfected this is the source to which we must look for facts to renovate its principles and dispel the uncertainty in which it is now involved.

In the lectures of our professors constant reference is made to that unwritten knowledge which constitutes the art of medicine. This is a skilful application of certain principles to the treatment of disease and can no more be conveyed by words than the mechanic can by words instruct his apprentice in the proper use of tools. The veteran practitioner reads in the countenance of his patient instructive lessons, to the tyro it is either a perfect blank, or it only expresses the troubled anguish of undefined suffering. What remedy to give, when and how to give it the practiced physician infers from the unwritten record of past experience — the tyro on the other hand approaches.

the bedside, bearing in mind perhaps a certain abstraction of the disease as it is developed in a large number of cases, he passes in review the remedies appropriate to each particular stage and here arises his embarrassment for these stages however well defined in their extremes are so blended in their confines as to defy his untutored powers of discrimination — in many cases he can at best make only an unsatisfactory grasp at the appropriate remedy The opportunities then for making observations and the advantage taken of such opportunities constitute the difference between the tyro and the experienced physician, and indeed between practitioners generally.

As physicians then we must apply our faculties of observation to the study of disease in its causes, its symptoms and signs its progress, its effects upon the constitution, and the remedies which arrest its progress and promote a favourable termination. We are to study how the seeds of disease are transmitted from generation to generation till at length favoured by some accidental circumstance they are developed in the full maturity of their baneful effects. How the constitution is modified and disposed to the reception of

disease by age, sex, habits, location and employment. And how the same exciting causes will produce an inflammation which in one will be determined to the stomach, in another to the lungs, in a third to the liver. How malaria, heat and cold, moisture and aridity, and perhaps the varying electrical conditions of the atmosphere become the exciting causes of disease, and to which of all these causes each particular attack is to be attributed.

With regard to the symptoms we investigate their proximate cause, their connexion with the morbid processes of which they are the external evidences, and their value value with respect to diagnosis, prognosis, and therapeutics. Their sequence too is a profitable study. By thus watching the daily progress of disease we learn to appreciate properly the recuperative powers of nature and when and how they should be assisted by art. At the bedside and there only can we learn to contemplate disease not as an abstraction but as the powers of the system acting orderly though not in their usual course, just as a river turned aside by some unusual obstacle overruns its banks and commits dreadful ravages

in the peaceful vale through which it glides yet it is subject to the same hydraulic laws and is in all respects the same river, which formerly glided peacefully along in its own proper limits dispensing its blessings to thousands

As the physiological effects of any remedy cannot be determined by an a priori investigation of its physical qualities, it is obvious that we must depend on actual observation for all that we know of their remedial virtues. The question whether a given effect is a post hoc or a propter hoc is one requiring as nice discrimination as any other in the whole range of medical science. To the difficulty of its solution may be referred the false reputation which various remedies have acquired and the doubt which some practitioners express as to the value of all medicines. The effects of remedies are various on different constitutions. What would be highly beneficial in the phlegmatic would kindle an unquenchable fire in the veins of the excitable. The time of giving a remedy too is all important what would be advantageous to-day, to-morrow would be destructive "Nullum remedium says Boerhaave, in morbis cognovi quin solo tempestivo usu tale fiat.

Stokes lays it down as a maxim, that there is a certain period in the progress of all diseases when stimulants become antiphlogistics. To detect the time when this stimulating point has arrived is acknowledged to be a very difficult matter. In fact, I believe, it is better in most cases, when we have reason to believe the stimulating point has arrived, to begin cautiously the use of stimulants, watch their effects and if unpleasant symptoms arise discontinue, thus appealing to the effects of remedies to decide on the question of their utility. Here is a wide field open for investigation which can be carried on only at the bedside of the sick. If it were possible to apply the numerical method to the test of our remedies great advantages might be expected to arise from it but there are many obstacles in the way of such an application The judgement cultivated by experience is that on which we must depend in the treatment of disease and however useful rules may be they can no more make a Doctor than they can a poet. Such is a brief outline of the subjects which should occupy the attention of the physician. As to his reading in the earlier part of his career, he should confine himself to such authors as give a simple de-

tail of facts and direct his mind to the most important particulars. After he has experience enough to enable him to appreciate the truth or falsehood of particular theories and exclusive doctrines, he may peruse them also with advantage. We should avoid taking a limited a limited view of our profession and all its branches are to be cultivated with the same unremitting attention — while making ourselves familiar with its sublimest principles, we should not neglect its humblest details. Even the wild speculations of the various theorists who have appeared in its ranks, we should not pass over with contempt. For who knows but that some intellectual Hercules may yet spring up and draw the glittering diamond from out this mass of rubbish. Much of truth may be then shadowed forth in lines too faint to be detected by any but the piercing eye of genius. Their very errors may be to us lessons of instruction. The sailor who has been wrecked upon a rough coast is not the worst pilot for its inhospitable shores. From all our studies, however, we should endeavour to distil the honey of practical utility. As a personal knowledge of his patient is of the utmost importance to the physician he should make himself

acquainted with the moral nature of man and accustom himself to the study of character and the quick detection of motives or as Burns has it

Conceal thysel as well's thee can
From critical dissection
But keek through every other man
Wi silent sly inspection

In contemplating this sketch if the heart of any grow faint, let him recollect that here are laid down the labours of a lifetime let him not be discouraged at the task before him but calling to mind the aphorism of the Corinthian sage μελετῆ τὸ πᾶν address himself boldly to his duties "Every man, says Johnson, who proposes to grow eminent by his learning should carry in his mind at once the difficulty of excellence and the force of industry, and remember that fame is not conferred save as a reward of labour, and that labour vigorously continued has not often failed of its reward" Let him cultivate an enthusiastic love of his profession, a love that makes its most servile duty grateful. let him bring to his aid the stimulus of an honourable ambition, of a comprehensive benevolence, and if he add the higher motive of religious obligation "omne tulit punctum"

An
Inaugural Dissertation,
On The
Anatomy, Diagnosis, and Treatment,
Of
Dislocations of the Femur,
Submitted to
The examination of the
Provost, Regents, and Faculty of Physic,
of the
University of Maryland,
for the
Degree, of Doctor of Medicine,
by
William H. Diffenderffer
of the
City of Baltimore
and the
State of Maryland
February
1843

To Dr Nathan R Smith professor of Surgery
In the University of Maryland

Sir

Permit me in dedicating my thesis to you to acknowledge the high honor thereby conferred on it; and to express my deep sense of the many obligations I am under to you, for the numerous acts of kindness and attention received, and the many facilities enjoyed, by me whilst your pupil.
Accept this as a feeble and imperfect expression of my gratitude,

Your affectionate
And greatly indebted pupil
William H. Pfendenffer

In the inferior extremity there are three important articulations, the hip, the knee, and the ankle, besides the many joints of the foot. Of the first of these, the hip, as the most important, I intend to treat at the present time.

Let us first enquire, what is an articulation? An articulation is defined, to be the apposition of the smooth surface of one bone, to the corresponding smooth surface of another.

Next, of what is it composed? It is composed, of a firm basis of bone, which is covered by smooth polished cartilage; of strong inelastic ligaments, which bind the bones together and prevent their displacement, but do not interfere with free motion, except, when too extensive, when they act as checks, to restrain it.

They are lined, by a thin serous membrane, called the synovial membrane, which secretes, a viscid, ropy fluid, for the purpose of lubricating the articulating surfaces, diminishing friction, and thereby facilitating their motions.

This joint belongs to the class, Enarthrosis; order Diarthrosis or moveable. It is a ball and socket joint, in which the round head of one bone, is received into the deeper cavity of another, so as to admit of free motion in every direction.

This joint, is the most perfect that we meet with in the

a well human skeleton, either as regards its anatomical structure, beauty of mechanism, or perfection and security of motion.

As it is altogether impossible, to detect, a diseased or unnatural structure, without an intimate knowledge of its healthy and normal condition and appearance; so it would be perfectly useless, to describe the deformities (no matter how precise and elaborate the description might be) presented to us by the displacement of the bones, without first knowing their appearance in the natural condition.

First of the acetabulum. The acetabulum or cotyloid cavity, is a deep cupliike cavity, which receives its name, from a fancied resemblance to a little cup, used by the ancients for containing or measuring vinegar.

It is situated in the middle, of the inferior portion, of the external face, of the ossa innominata.

Above, it has the prominence, of the anterior superior spinous process, in a vertical line with it.

Below, and in the same line, it has the rounded tuberosity of the ischium.

Immediately within, it has the spinous process of the pubes, over which the femoral vessels pass, and still farther, in a horizontal line with it, it has the crest of the pubes.

Within, and below, it has the foramen ovale; which is a triangular opening in the male, but more of an oval in the female, filled up, by the obturator ligament, through the superior part of which, the obturator artery and nerves pass.

Behind, and in the articulated skeleton, a little above, it has, the ischiatic notch, which is converted into a foramen, by the sacro-sciatic ligaments, through this notch, pass, the gluteal, the ischiatic, and internal pudic arteries, and the great sciatic nerve.

The cavity, of the acetabulum, is formed, by the inferior and external portion of the ilium, two fifths; by the superior and anterior portion of the ischium, two fifths; and by the external anterior portion of the pubes, its horizontal ramus, the remaining fifth.

At birth, this cavity presents a triangular appearance, and is very soft and yeilding, and altogether unable to sustain the weight of the body, in the erect position.

In the adult, it presents a deep hemispherical depression, deeper, at its superior concavity, than its inferior.

Its edge, presents a sharp margin all around, except,

at its internal and inferior portion, where it is devoid of bony parietes, but which is filled up by a ligament, called the cotyloid ligament, which stretches from the prominent margin, on the one side, across to the prominent portion opposite, thus making up the entire ring.

The internal surface, of the acetabulum, is smooth and regular, especially at the superior part, on which the head of the femur moves, and which transmits, the weight of the body to the lower extremities, this portion is also the deepest and most secure.

At the very bottom of this cavity, is an irregular triangular depression, whose base, presents towards the foramen ovale, and whose apex, is in the very centre of the acetabulum.

Into this the teres ligament is apparently inserted.

Of the thigh bone, or femur.

This is the longest, and largest, bone in the body, it is cylindrical in its form, extending from the trunk to the leg.

For the purpose of description, it is divided, into the upper and lower extremities, and the middle.

We shall only speak, of the peculiarities, presented

to us by the bony structure ~~presented~~ of the superior extremity.

It presents us, with three, well defined features, the head, and the great, and lesser trochanters.

The head, is the articular surface of the bone, above, and constitutes, the segment, of rather more than one half of a sphere.

Its surface, is smooth, and corresponds to the smooth surface, we have seen, on the internal surface of the acetabulum, into which it is deeply received.

A little below the centre, of the head of the bone, we have a small pit, or concavity, from which arises the round ligament of the joint.

Its articulating surface is more extensive, above, than below.

Projecting, from the internal face of the bone, arising between the two trochanters, and directed, upwards and inwards in an oblique direction, as regards the axis of the bone, is a process of the femur called the neck, which sustains the head.

This neck, makes an obtuse angle, with the vertical axis of the bone, differing in various subjects,

and more nearly approaching a right angle in the female, than in the male.

It is about ten inches in length, and resembles a flattened cylinder, the greatest diameter of which, is vertical, and whose base, is attached to the body of the femur.

On the posterior and inferior part of the neck, there is a slight superficial furrow, which runs transversely across this part of the bone, and in which is lodged the tendon of the obturator externus muscle.

The great trochanter, which is the superior articulating extremity of the bone, is in a direct line with its axis,

It is an irregular bony protuberance, rising higher than the neck, but not as high as the head of the bone, and presenting to us, a well marked, elevated, summit, rising directly upwards.

It rests, upon a broad base, presents, a diversified surface, and is somewhat convex and prominent externally, but irregularly concave internally.

At the internal, posterior, and superior part of the bone, at the lower end of the neck, we find a regular conical process, called the trochanter minor.

It is much smaller, than the trochanter major, and

between the two, is a broad elevated ridge.

Next, of the ligaments,

These are three, the cotyloid, the teres, and the capsular.

First let us speak, of the peculiar properties of ligaments.

These are strong bands of fibres, capable of resisting great violence, their office is to bind the articulating extremities of the bones firmly together.

Their fibres are not arranged uniformly, as in muscles, and are very compact.

They are entirely destitute of elasticity and extensibility, and their strength, is so great, as frequently to tear off portions of the bone, into which they are inserted, before being ruptured themselves.

But notwithstanding their great strength, violence frequently avails itself of mechanical advantage, to produce a laceration of their fibres.

Of the cotyloid ligament. The cotyloid ligament is of prismatic form, encircling the acetabulum completely, exterior, to the margin of the cartilage, it is thickest, where it stretches from one bony prominence of this cavity, to the opposite, converting the notch into a foramen, through which the vessels pass, to nourish the different

tissues concerned in the articulation.

One, of its sides, is covered by the synovial membrane, another, is adherent to the capsule, and the third, has a bony attachment.

The capsular ligament. This is the strongest capsule in the body, and represents a sack, open at both ends, which, are inserted into the bones.

Its fibres are short, interlace with each other, and are very irregular. Its thickness is not uniform, above, and in front, it is very strong and thick, and receives a strong band of fibres, from the anterior inferior spinous process of the ilium.

Within, it grows thinner, and behind, near the posterior ridge of the os femoris, it becomes quite thin, and is perforated by numerous vessels.

It inserted, above; into the whole circumference of the acetabulum, exterior to the cotyloid ligament, and into this ligament where it subtends the notch; below, in front, into the oblique line between the two trochanters behind, into the root of the neck in advance of the oblique ridge, leaving bare a small portion below; above, into the neck, just below the trochanter major; below just above the trochanter minor.

The ligament of round ligament; this extends from the pit, on the internal side of the apex of the head of the femur, to the rough triangular surface, in the cavity of the acetabulum. It is about four lines in length, and is separable into two fasciculi, the upper of which, running towards the superior prominence of the acetabulum, is inserted into the margin of it, and for a short distance within; the lower, runs towards the inferior prominence, and winding around it, adheres to the upper and internal portion, of the anterior face of the ischium, just below the margin of the acetabulum.

Of the cartilages. These, though of apparent insignificance, are of great importance, so much so, that they enter into the composition, of every moveable joint in the body. They are spread over the bony articulating surfaces, for the purpose of furnishing a smoother surface than could otherwise be afforded. They also, by their peculiar physiological properties, of great elasticity and firmness, protect, the delicate inner membrane from the violent concussion, produced by a fall or leap on the lower extremities.

Of the cartilage lining the acetabulum.

This cavity is lined completely by a layer of cartilage, except the triangular depression at the bottom; and it

is projected beyond its sharp long margin, especially at its upper part, thus rendering the cavity deeper.

It is thinner at its center, than its edges, which also contributes to deepen its cavity.

Of the cartilage covering the head of the femur.

This invests the head completely, down as far as the neck, forming a perfect cap, except at the pit from which the round ligament springs; it is thinnest at the margins, and its thickest part, corresponds to the thin part, of the cartilage lining the acetabulum.

Of the synovial membrane.

This membrane lines the cavities of all the joints, and adheres closely to the cartilages. Its structure is laminated, white, thin, and soft, constituting a perfectly closed sack. When inflamed, it pours out coagulable lymph, which unites the opposite surfaces, producing anchylosis. Starting from the acetabulum, to which it gives a smooth investment, it covers the articular face of the cotyloid ligament, and is reflected on to the internal surface of the capsule, lining it internally, it proceeds down, as far as the neck of the femur, here it leaves the capsule and is reflected on to the neck of the bone, covering the periosteum, or what some

anatomists consider to be the reflection of the capsular ligament, it proceeds up to the head, and giving it a delicate coat, it is reflected on to the teres ligament, giving it a complete sheath, passing back to the point from which we started.

Having now given a detail of the anatomical structure, concerned in this articulation, let us look for a moment at the motion performed here and the muscles concerned in producing it, as they strongly oppose, all violence which tend to displace the articulating surfaces of the bones, and at the same time resist, most powerfully, all attempts to reduce them when dislocated.

There are six motions performed here, flexion, extension, adduction, abduction, rotation, and circumduction, of the first four as intimately connected with this subject, I will now proceed to the notice. First flexion; flexion is the motion by which the femur is brought towards the abdomen. It is performed with great ease, the head of the bone revolving freely in the acetabulum; when the flexion is great the teres, and the posterior portion of the capsular ligaments become tense, and the end of the trochanter major approaches the sciatic notch.

This motion is executed by the psoas magnus and iliacus internus muscles, coming from the pelvis, and inserted into the trochanter minor, passing over, the internal part of the external surface of the capsule.

Extension, is just the reverse of the last motion. It returns the thigh when flexed to its natural position, and even a slight degree beyond; when extreme, the great trochanter is brought under the anterior inferior spinous process, the lines, and anterior portion of the capsule, rendered tense; and the internal, lower part, of the neck, opens against the margin of the acetabulum. There are no special muscles appropriated to the performance of this motion; but those arising from the tube of the ischium, and inserted into the leg, when it is fixed, also extend the thigh. These are, semimembranosus, semitendinosus, long head of biceps, and gluteus maximus.

Adduction, is produced, when the thighs are approximated to each other, it is resisted by the tension of the capsular ligament, and by the trochanter minor checking against the tuberosity of ischium. Muscles producing, are the triceps adductor, and pectineus, coming from the pubes, inserted into the linea aspera.

Abduction, is that by which the thighs are

separated, this motion is checked by the tension of the upper fasciculus of the teres, and by the posterior and internal portion of the capsule, which is its weakest point, and the neck strikes against the margin of the acetabulum.

The muscles concerned are the three gluei, arising from the external surface of the ilium, and inserted, into the trochanter major and linea aspera.

We will now proceed to the Dislocations of this joint.

But first, let us premise, that there is probably no accident more liable to mismanagement, or concerning whose diagnosis, more reputation has been lost and won, than the one concerning which we are now engaged.

The vast importance, of an accurate knowledge of the nature and character of these injuries, may be conceived, when by the mismanagement, or perhaps by the ignorance, of the surgeon, the patient becomes deformed, and forever loses, the functions of this most important member.

Not more than a half a century ago, it was firmly believed, that dislocation of the hip joint never did occur, and it is to be regretted exceedingly, that dislocations of this joint, even in the present enlightened state of medical literature, and the great facilities which exist for acquiring knowledge in every branch of the

profession, are very frequently confounded with, and treated as, fractures of the neck of the bone.

What is a dislocation? A dislocation is defined to be, the escape of the articulating surface of a bone from its natural situation.

They are divided, into complete, and incomplete; complete, when the bones are wholly separated; incomplete, when there yet remains some portion of the articulating bones in contact. They may also be divided into, simple, compound, and complicated; simple, when unattended by any external wound; compound, when a bone is protruded through the flesh, or an opening otherwise made into the joint; complicated, when the bone is fractured, or the dislocated bone, presses upon, or the violence which causes the injury, ruptures, an artery, vein, or nerve.

Luxation may occur, from external violence, or from the contraction of the muscles, which never takes place here except, when the cartilages and ligaments are ulcerated.

They are much more liable to recur, and by a less degree of violence after being once reduced.

If the luxation, be simple, and recent, in all cases it may be easily reduced by proper management, but if the injury has been existing for some time, its reduction

is always difficult, and frequently impossible.

After eight weeks have elapsed, Sir Astley Cooper declares it useless to attempt the reduction, except in persons of very weak habit. The violence, necessary to reduce old luxations, occasions frequently, contusion of the skin, laceration of the muscles, and bruises or great tension of the nerves, the artery is sometimes ruptured, and numbness and paralysis of the limb takes place.

Intense pain is felt at the moment of the accident, followed shortly by great tumefaction of the limb.

This accident is not common to old persons, in whom the fracture of the neck of the bone is more frequent; nor is it common to young children, in whom, fracture of the epiphysis is more liable to take place.

The limb, is deformed, is sometimes lengthened, but more frequently shortened, and is rigid.

The patient is incapable of assuming the erect posture without grasping some support with his hands.

Surgeons generally recognise only four luxations of this joint, though some say five, or six, but these last rarely if ever happen.

These four, are upwards and backwards on the dorsum of the ilium, backwards and a little upwards

into the sciatic foramen; forwards, and downwards into the foramen ovale; and forwards and upwards on to the crest of the pubis.

First, on the dorsum of the ilium.

This occurs more frequently than any other. It is produced by a fall either upon the feet or knees, in which the thigh is violently adducted. The trochanter minor checks against the spine of the ischium, and the head of the bone, is forcibly lifted from the socket, the strong capsular, and the round ligaments torn.

In this state of things, the adductor muscles are relaxed, whilst the opposing abductors are violently put on the stretch, they contract powerfully by being thus irritated, and the head of the bone is drawn up among the glutei muscles. The patient feels, and generally hears, the crash produced by the rupture of the ligaments.

The gluteus maximus, and minimus, and the posterior and superior portion of the medius, are relaxed, so also are the pyriformis, the obturator internus, and the quadratus femoris. The psoas magnus, and iliacus internus, the gemini and the anterior portion of the gluteus medius are tense.

The symptoms, of this injury, are, first, shortening

to the extent of about two and a half inches, the knee and foot are turned inwards by the anterior portion of the gluteus medius, and that portion of the capsular ligament which comes from the anterior inferior spinous process.

The great toe, rests on the dorsum of the opposite foot, the thigh flexed partially, and the knee in advance, and resting on the internal condyle of the opposite thigh.

This accident, has frequently been confounded with, and mistaken for, fracture of the neck of the femur, as in those cases the limb is frequently shortened, and the great trochanter drawn towards the crest of the ilium, but the knee and foot are generally turned out, nor is the pain so great, and the limb is capable of much greater motion, and hangs perpendicularly from the trunk.

But the most marked symptom, and the one, which if attended to properly, will never fail in establishing a correct diagnosis, is, that if extension be made, the bones if fractured, returns to its place, and the natural form of the hip is restored, leave off traction, and the parts will resume their malposition, if dislocated, the parts will resume, and maintain, their natural situation, only, when the head of the bone is returned to its socket.

This luxation is counterfeited by injuries done to the

joint, by a blow or fall on the great trochanter, producing spasm of the muscles, but the situation of the great trochanter will always distinguish between them, although the limb may appear shortened.

This dislocation arises, sometimes from ulceration and absorption, of the bones, ligaments, and cartilages; here no attempt must be made to reduce it, all that we can do is to restrain all motion, injoin perfect quiet and rest, and allow anchylosis to take place.

Next of the dislocation into the Sciatic notch

It is more rare, and its diagnosis more obscure, than any other of which we shall treat.

It is occasioned by a fall, on the outer part of the knee, whilst the thigh is flexed, driving it inwards under the body, at the same time a blow is struck through the shaft of the bone; the abductor muscles contract, and the head of the bone is lodged firmly in the sciatic notch.

The muscles are very much in the same situation, as in the former, except, that the pyriformis, and obturator internus, are relaxed, and the psoas magnus, and iliacus internus, more tense.

The limb is from an inch, to a half inch shorter, the hip flattened, the trochanter major is behind the plane of the

anterior superior spinous process; the thigh is slightly flexed and the knee and foot turned inwards; the great toe rests on the ball of the opposite toe; the patella elevated and slightly advanced; the limb allows of a slight degree of rotation and flexion. It is impossible, to confound this injury, with fracture of the neck, or with any other luxation.

Dislocation forewards and downwards, into the foramen ovale, is accomplished, by a fall in which the thigh is violently abducted whilst flexed; the great trochanter checks against the margin of the acetabulum, and the head of the bone is forcibly lifted out, rupturing the teres and capsular ligaments. In this position the triceps adductor and pectineus muscles are put on the stretch, they contract powerfully, and the head of the bone is thrust into the thyroid foramen.

The deformity in this case is very apparent; the limb is lengthened to the extent of two inches; the knee is advanced, and widely separated from the opposite; the foot is also separated and generally neither turned out or in.

The adductors are relaxed, but the glutei, the pyriformis, obturator internus, gemini, and quadratus femoris are tense, and carry the limb away from the axis of the body, and the limb rests on the ball of the toes.

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The adductors are relaxed, but the glutei, the pyriformis, obturator internus, gemini, and quadratus femoris are tense, and carry the limb away from the axis of the body, and the limb rests on the ball of the toes.

The symptoms of this injury are so well defined and characteristic that even the most ignorant cannot mistake it.

The last dislocation we shall notice is upwards and forwards on the crest of the pubes.

It is accomplished by the limb being forcibly extended, at the same time that a blow is struck in the direction of the bone; the capsule and ligs are torn, and it is thrown upwards and inwards on the crest of the pubis.

The limb is shortened at least an inch; the knee and foot turned out and widely separated from the opposite, and the heel elevated. But the most distinct and characteristic symptom, is the hard tumor on the pubis, which we feel, by gently rotating, to move; this is the head and neck of the bone.

The muscles on the posterior part of the thigh are rendered tense drawing the limb outwards.

This injury is not liable to be confounded with any other injury, except fracture of the neck, and by attention to the rules before laid down, this is rendered impossible.

Of the Treatment of these injuries.

We have seen in every dislocation what an important part the muscles perform; these, are the most powerful in the body, and aided by violence, are capable of effecting and maintaining

the luxation.

Now as we must acknowledge their power in this respect, will we not be gaining a great deal towards a reduction, if by any means we can relax those muscles which retain the bone in its unnatural position; and still more if at the same moment we can excite to contraction those antagonist muscles which have been relaxed: most certainly! and in doing this we will have accomplished all that is necessary to restore the bone to its natural situation.

Frequently, when extension is made by the pullies, these muscles are accidentally put on the stretch by the surgeon in rotating the limb, and the bone flies into place with an audible snap.

A case of Dr Physicks, is related by Dr Dorsey, in which extension was made by the pullies, after the method advised by Sir Astley Cooper, without success; the pullies were then taken off, and the limb, suddenly, whilst expecting abduction, recovered its natural situation. Dr Dorsey, very sagaciously ascribes the difficulty, to Dr Physicks button hole laceration of the capsular ligament, which allowed the head to be pushed through and then retained it there, and that by his motions the head was pushed back again.

By simply inspecting the ligament, Dr Physick would have seen the impossibility of such an accident, as the fibres

interlace each other in every direction, and cannot be lacerated like the parallel fibres of a muscle.

The same author says, "very often after great force has failed, a gentle effort in some new direction, is found successful."

To what else then, can we ascribe it, but to the contraction of the muscles which oppose the luxation, whilst those concurring to retain the bone are relaxed.

The pullies, are objectionable, as they violently elongate those muscles which hold the bone in its malposition, sometimes lacerating their fibres, and tearing up their attachments.

Sir Astley Cooper's method is as follows, "the patient is bled from a large orifice, erect, until his lips become pale, he is then put in the warm bath, at 100° of Farenheits until faintness, then tartar emetic, is given, in small repeated doses, so as to keep up constant nausea; he is then laid on a firm bed, and a band passed through the perineum and fastened to the wall; a wetted roller, is now applied above the knee, over this is secured tightly a leathern girth, which is attached by means of bands to the pullies; the knee, is to be semiflexed, and carried across and a little above the opposite. Extension is now commenced, and continued, until the head of the bone is brought down to the margin of the acetabulum, he then with a band, passed round

the upper part of the thigh for the purpose, lifts the head over the margin into the cavity."

The patient during this operation suffers most intense pain

How is the reduction to be otherwise accomplished?

In the following manner; counter-extension is made, as in Sir Astley's plan, except that the bands are carried over the shoulder of the injured side, instead of the opposite.

Extension is now made steadily by means of a band around the knee, committed to the hands of a assistants, the surgeon then grasps the knee and ankle, and throws the knee outwards, at the same time that he carries the ankle inwards, the triceps adductor by this motion is made to contract, and the bone flies immediately into its socket.

It is done in a moment, and the pain inflicted is trifling when compared to Sir Astley's method.

The dislocation, into the sciatic notch, is reduced by precisely the same mode as that on the dorsum ilii, indeed it is most always converted into it before it is reduced.

Dislocation into the foramen ovale.

Here at all events one would think the pulley contraindicated, but even here Sir Astley advises their use.

If the limb be grasped at the knee and ankle as before, and the limb rotated inwards, the reduction will be accomplished

The remaining luxation on the crest of the pubes requires the same plan of treatment, with a moderate degree of extension.

The violence which occasions all these luxations, sometimes causes also a fracture of the margin of the acetabulum, which greatly increases the difficulty of their treatment, and frequently it is found impossible to retain the bone after it has been reduced, as the slightest motion will reproduce the displacement.

After the reduction in all cases, the patient should be put to bed, and the strictest rest and quiet enjoined; a bandage will sometimes be requisite to give support to the joint

The patient should be bled, and the constitutional symptoms attended to.

In a week, or ten days, the joint, should be gently and cautiously exercised, and the patient may walk at the end of two weeks generally.

In concluding, allow me to express my fears, that I have occupied your valuable time too long. But in a subject of such acknowledged importance, I found myself compelled to enter into detail, in order that I might treat it, with satisfaction to myself, and render it I trust worthy of your acceptance. That no errors, will be found herein, is more than I have the vanity to expect, but I trust that the greatest may be its length.

Bronchitis.

In examining the various branches of Medical literature, we will find few subjects which have occupied the attention of the Profession in all ages, more than the diseases of the chest. Nor is it surprising that diseases of so common and fatal a character, should have engrossed the attention of the most profound minds. But although watched, and described with a faithfulness that must command our regard, the ancients failed in attributing them, to their proper source. Unfortunately for mankind, Medicine has been too long invested in a species of infallibility, which warring, equally against innovation and scepticism, would crush, those who doubted her oracles, and pronounce that temerity, which boasted not, in having age to recommend it.

These observations are of course not applied to modern medicine, for although it might be urged that authority has even yet too much influence, the fault is ours if we receive that which is not based on pathalogical induction.

It would be tedious, and perhaps foreign to

the purpose of this paper, to trace the gradual development and changes of opinion, in the above named class of diseases; presenting, as these affections frequently do, obscure symptoms, referable to one or all of the diseases in question, particularly in the latter stages, satisfactorily account for the diversity of treatment persued toward them.

Much has already been achieved by modern pathology, but it must be confessed, much remains to be done, before we can flatter ourselves with an approach to certainty, in the treatment of all the diseases of the chest, and surely if the past is a fair criterion for the future, we need not despair, of treating successfully, at no very distant period, the most obstinate of these diseases.

Inflamation of the mucous membrane of the bronchia, or Bronchitis, is probably, with one exception, (Consumption) the most troublesome of these diseases to manage, not because its course is more rapid, or more obstinate when properly treated, than the other diseases of the chest, but the chief danger arisses from the insidiousness of its attack, which may almost proceed to

an alarming extent, before the patient is appr=
=ized of the danger. It generally arises from a
common cold, or catarrhal affection of the mucous
membrane lining the nose and fauces, the
inflamation extending to the Trachea and
Bronchia. In common with other important
affections, it is usually ushered in, with chille=
=ness, succeeded by pyrexia, tickling sensation,
with hoarseness in the throat, and loss of voice;
violent constriction of the chest, dry cough; whee
=zing sound; pain in the head, is a very prom=
=inant and characteristic symptom of this
disease, great prostration of strength, and anx
=iety of countenance. The tongue is white and
covered with transparent mucus; urine scanty and
high colored; bowels constipated. In addition
to these symptoms, there is usually a frequent
and feable pulse; contraindicating venesection,
though often employed, but generally, without the
same ~~success~~ as in other inflamatory diseases;
dry and hot skin, sickness at the Stomach,
sense of sinking at the precordia; pain on
coughing &c. The febrile symptoms are generally

attended with an exacerbation in the evening.

These symptoms become aggravated as the disease advances, until at length we perceive the cough which before was dry; now attended with some clear tenacious expectoration, which increasing; the constitutional symptoms abate.

These symptoms go on increasing for three or four days; sometimes longer, at which period the respiration becomes more laborious, and hurried; the dyspnoea and tightness of the chest increases; the pulse also becomes quicker; and the countenance assumes a more anxious appearance; with lividity of the lips; and pallid cheeks. The wheezing may now be heard at some distance from the bed; the patient changes his posture more frequently, and desires to be raised often, to obtain more air; a clammy perspiration breaks out on the face, and extremities; which become cold, becoming insensible, soon death closes the scene. In common this disease runs its course in from five to twenty days, modified of course, like all other diseases, by the mode of treatment, constitution of the patient, and other circumstances.

In favourable cases the disease begins to abate from about the fifth, to the ninth day, which is first evinced by the appearence of the expectoration, it becoming of a whiter appearance and followed by an abatement of the febrile symptoms, cessation of cough &c. In other cases, by copious perspiration, or an unusual secretion of paler urine, depositing a sediment. Such favourable terminations are not however, always observed, more especially when the case is severe, and not treated promptly at the begining; the disease extending perhaps to the minute aircells, gives rise to inflamation of the substance of the lungs; or the secretion, becoming too copious, frequently, (particularly in young subjects) brings on convulsive efforts to expell it, during which the patient is suffocated. Bronchitis may arise from a variety of other causes then those already mentioned; it may arise from Phthisis Pulmonalis; the tubercles in the process of enlarging, or softening, irritating and inflaming the surrounding texture, and the inflamation extending to the bronchia,

constituting Bronchitis; or from the inhalation of irritating substances; noxious gases; breathing an impure atmosphere &c. It is also very frequently conjoined with other diseases, as Pleurisy; Pneumonia; Measles; Scarlatina, and Smallpox. In Measles, before the eruption appears externally, but more frequently in consequence of its sudden disappearance or retrocession; sometimes with Whooping-cough, especially when that disease is epidemic. In fine, Bronchitis is sometimes conjoined with most of the diseases to which the human frame is subject; though rarely meeting with any attention from the Practitioner; although in some of them, as Pertussis, Measles, Scarlatina, Continued fever, Cerebral affections, and affections of the lungs; it excites no attention until it becomes the ~~most~~ more serious of the two, or ends fatally.

Inflamation of the mucous membrane of the bronchia, is devided by some authors, into several species, but for all practical purposes its division into the acute, and chronic variety, is in the opinion of others, quite sufficient.

The chronic form of this disease generally succeeds an acute attack; and is characterized by an almost constant cough, and copious expectoration, with little or no pain; of course it varies in different subjects, being in some attended with an accelerated pulse, and slight exacerbation in the evening; and pain in the chest; it is much modified by the state of the weather, being usually most severe in the fall, and winter. The appearance of the discharge is usually pathognomonic of this stage of the disease, which from a thin mild, (in the acute stage) transparent expectoration, becomes changed in colour and consistence, without being much, if any, changed in quantity; it becomes white or of a greenish yellow colour, mixed in old or bad cases, with pus or blood, or both. When it attacks old subjects primarily, as it frequently does, it is rarely immediately fatal, generally verging into Asthma. But in those cases consecutive of acute bronchitis, and attacking young and middle aged persons, it frequently terminates fatally; the symptoms gradually becoming worse, attended with

rapid emaciation, and purulent sputa, until finally, the patient sinks into Hectic fever, which soon terminates his sufferings. This last form of Bronchitis, is very difficult, in many cases, to distinguish from Consumption, particularly in the latter stages. Chronic Bronchitis also frequently arises from the disappearance of cutaneous eruptions, as in Measles, Scarlatina, Small-pox &c, and from the drying up of accustomed discharges. This disease is also in children, often consequent on Whooping-cough.

In forming an diagnosis, importance is placed upon the appearance of the expectoration, which, in acute Bronchitis, is of a viscid, tenacious, and ropy nature; such indeed is its tenacity, that you may invert the vessel which contains it, without fear of spilling it; The cough generally comes on in paroxysms; and latterly attended with wheezing; In Pertussis, it is attended with the characteristic whoop, and there is no wheezing; the expectoration in Pertussis only follows vomiting; and in Pneumonia, is more thick, and purulent, and rounded, sometimes streaked with blood; in Pleurisy it

is more frothy; completely different in appearance, and wanting that tenacity accompanying Bronchitis. Pain in Pleurisy is very acute, and generally refered to one particular spot; whereas, in Bronchitis there is scarce any pain complained of, and in addition to this, is not increased on taking a full inspiration, the contrary of which takes place in Pleurisy. The pain of Bronchitis consists merely in a sense of soreness, and tightness of the chest, especially beneath the Sternum, In Croup, and Laryngitis, severe pain is felt at the seat of the disease during inspiration. The Pulse in Bronchites, is sometimes feeble and frequent, at other times full and soft; but in Pleurisy it is hard, full and bounding. The countenance in Bronchitis has a drunken appearance. But the most important assistance in our diagnosis, is derived from Auscultation; On the application of the stethescope during the first stage, a dry hissing sound is heard, evidently depending on the want of secretion in the mucous membrane. There is of course some diversity in the tone of the sound

depending on the severity of the case; but the sound itself is perhaps not much liable to be mistaken. At a later stage we have the mucous rale, frequently audible without the use of the instrument; when the mucous rale is similar to a gurgling noise, the disease is said to occupy the larger bronchia, and when it is fine, and constantly present, the smaller bronchia are said to be affected. Sometimes no sound is heard at all, over a small space of the chest, the bronchia becoming partially, or totally obstructed with secretion, which probably in a short time is expectorated. Some authors mention percussion as being of service in afirming our diagnosis at this stage, but perhaps it is not of much importance. The auscultatory signs differ little in the chronic and acute stages; the mucous rale being generally present, sometimes in one part, and sometimes in another, being seldom confined to one spot for any length of time. There is considerable difficulty of breathing at times, depending generally on the inordinate mucous secretion, but not always, for in some we may have painful dyspnoea, without

any chances. But by far the most important and difficult diagnosis, is in distinguishing it from Phthisis Pulmonalis, which in many cases it is very difficult, or perhaps impossible to do, particularly if the patient is of a scrofulous diathesis; an accurate history of the case, with a careful attention to symptoms, may however enable us to distinguish them.

In Bronchitis we have from the beginning, the mucous rale, which belongs not to Phthisis Pulmonalis. The cough is also very different in each, being in Consumption short, dry, and tickling, whereas in Bronchitis, it is deep, in paroxysms, and attended with great relief on expectoration. The expectoration in Bronchitis is generally more or less of a puriform character. In Consumption it may be similar as regards the puriform appearance, but has in addition, small bits, of a cheesy character. In this disease the emaciation and Hectic fever, are not so rapid as in Consumption, nor is the pain fixed, as in many cases of Consumption, the patient can also take fuller inspirations, and the dyspnoea is not painful.

Treatment of accute Bronchitis

This, like every other febrile disease, must in a great measure depend upon the severity of the symptoms, and constitution of the patient. As this disease is opt to have proceeded to a serious length before recourse is had to remedial measures, it behooves us, to examine minutely into the progress of the disorder, before having recourse to active means

As a general rule, the treatment is strictly antiphlogistic, and first, in the rank of such measures, stands bloodletting. In the early stage of the disease, when the stethescope indicates the air-passages to be dry, the air emiting a hissing sound, or crackling, with a constricted chest, and dry cough, blood-leting, carried to a sufficient extent, will be of immense values. We are not to be altogether guided in blood-leting by attention to the febrile symptoms, for if the state of the alimentary canal is good, we may have serious disease, without any alarming indications. When the second stage is far advanced, and expectoration copious, then it may be a more doubtful remedy. In the last

stage it cannot be employed at all, and if used will prove to be injurious; for it would be robbing the patient of the strength, necessary for expectoration. There are cases however, where the lungs become suddenly congested with blood, in which cases a well regulated abstraction of blood would be of great use. We are not able to determine by the pulse, the extent to which it is necessary to carry depletion; most authors who are favourable to venesection agree that a repetition is not often required in this disease, as the first impression can generally be kept up by cuping; with these however, we beg leave to differ in opinion.

Emetics have been much employed in the treatment of this affection; Tart. Antim. has more particularly been used than other emetics, with a view of producing vomiting, and afterwards, small doses, to be administered so as to keep the patient continually under its influence, provided, no inflamation exists in the Stomach.

In Children, Emetics are one of the most efficatious means we can employ in treating this disease, they are in general found to bear this

kind of treatment better than adults, there being no disposition to throw off the mucus which is lodged in the airpassages, by expectoration.

Expectorants, are also useful remedies in this affection. In the early periods of the disease mucilaginous mixtures, or antimonials should be employed for this purpose. But after the general arterial excitement has been moderated, we may resort with much advantage to the stimulating expectorants.

Active Cathartics, are by some said to be of little or no value, but if the bowels are constipated, they aught however to be given, so as to keep the bowels in a laxative state: often when the morbid accumulation in the intestines has been removed by cathartics, Tart. Ant. will be sufficient to keep the bowels loose.

Blisters should not be employed until the phlogistic state has been somewhat reduced. They are perhaps the best meanes for counterirritation in this form of the disease.

Opium cannot in general, be given with propriety in this affection, after the bronchial secretion is fully established. By its tendency to suspence for a time the efforts to expectorate,

it may readily give rise to dangerous accumulations of mucus in the bronchial tubes. When the cough is dry, however, and the arterial reaction has been moderated by depletion, the judicious employment of of this narcotic will often procure much relief. In combination with small doses of calomel, opium may sometimes be beneficially exhibited at an early period of the disease. When conjoined, these remedies not only diminish the cough, and assist expectoration, but seem likewise, to regulate the secretion in adults.

In the treatment of Chronic Bronchitis, it is seldom necessary to have recourse to general blood-letting, except, under the following circumstances, viz, The occurance of acute inflamation; or when it is complicated with Haemoptysis. In such a case, it is quite necessary to defend the patient from the immediate effects of the haemoptysis. Local bloodletting, and dry cupping does good, where general bloodletting is often impracticable; to be of any service, a sufficient number of cups must be put on.

Counterirritation, is one of the best remedies

that can be recommended in curing chronic bronchitis, either by a succession of blisters or the tart. Antim. ointment. In using the ointment, we must keep up the irritation for a considerable length of time.

Emetics are generally attended with good effect, both in children and adults. They ought to be repeated according to the strength of the patient. If the stomache is insensible to the emetic, it is advisable to omit it, as it is apt to produce hypercathorsis, which exhausts the patient.— Mustard, and Ipecacuanha combined, produce vomiting with good effects.

The stimulating Balsams are said to have been used with great succes, but an account of their nauseating effect upon the stomache, they cannot be conveniently administered in sufficient quantities, to produce the desired effect from them. Copaiva appears to be decidedly the best article of this class. it should be given at first in doses of thirty drops, three times a day, and gradually increased to sixty or seventy. The preperations of Tar have

been highly recommended, and doubtless, are, of value, in the chronic form of the disease, if the habit of the body be not irritable.
Mercury carried to gentle ptyalism is considered an excellent remedy, it may be combined with opium and squills.

An
Inaugural Dissertation
on
Fractures of the Femur
Submitted to the Examination
of the
Provost, Regents and Faculty of Physic
of the
University of Maryland
For the Degree of
Doctor of Medicine
By
Wm Hewson Baltzell
of
Tennessee
1843.

To
N. R. Smith M. D.
Professor of Surgery
In the
University of Maryland
This
Dissertation is
Respectfully Inscribed
As an humble acknowledgement of the high regard entertained for his Professional talents, private worth and many acts of kindness.

By his affectionate Pupil & humble
Friend
The Author

Among the various subjects which present themselves to my mind I know of none that deserves the attention of the Profession, more than Fractures: — As the skill or ignorance of the Surgeon in treating them stands out in bold relief: — a monument of his success or disgrace: — a star that guides him onward to the goal of fame, or to a thorny path which leads to perdition. — A fracture may be defined a solution of continuity in a bone, which may be produced by direct or indirect violence, or counterstroke. Fractures may be either simple, compound, comminuted or complicated: — again they may be divided into transverse, oblique, longitudinal or irregular. — However the field of fractures in general is by far too extensive for the brief space allotted to a Thesis and consequently I must be content with fractures of the Femur, which is as frequently fractured and as seldom successfully treated as any other bone in the osseous system.

Fractures of the Femur, may occur at its neck which is the weakest point — There is a circumstance which greatly adds to the liability to fracture at this point: — Viz. the angle which the cervix makes with

the shaft of the bone – this angle increasing with the age of the patient, being nearly at right angles in extreme old age, sometimes not exceeding an angle of 30 deg. according to Mr. Amesbury. – the long lever furnished by the bone having thus great mechanical advantage to act upon the cervix which may be wasted away by disease until it becomes a mere shell, so that even a slight trip in walking over the carpet or fall from a curb-stone has been known to produce fracture – Hence we may conceive that the counterstroke has full force to act, this being the sort of violence which most frequently effects fractures of the cervix. Again the head of the bone is received into a deep fossa forming thus the most perfect ball & socket joint in the human body – then the femur is attached to this cavity by the strong ligamentum teres and the whole being surrounded by a strong capsular ligament, gives security to the articulation at the expense of the bone. However this firm capsular ligament is frequently lacerated by the sharp fragment of bone being violently driven against it.

There are three species of fracture of the neck of the thigh bone. viz. 1st at the attachment of the

epiphysis, which is peculiar to young subjects. 2d. at the neck proper within and 3d. exterior to the Capsular ligament including a portion of the trochanter major. — The causes which produce these three varieties of injury, are 1st. falls from a considerable height upon the foot, producing Counterstroke, 2d. direct violence as by a cannon shot or ball. 3d. falls directly upon the great trochanter, 4th. by a fall from a curb-stone, or slight trip upon the Carpet as was before mentioned.

Diagnosis. The symptoms which characterize these injuries are shortening of the limb, though this is not a uniform symptom unless the fracture be produced by the Counterstroke. — There is also pain, and yielding of the limb which latter circumstance distinguishes it from dislocation; the limb is turned outward whereas in dislocation upon the dorsum of the ilium it is always inverted. — the trochanter is carried upwards by the glutei muscles, which occurs also in dislocation. yet there is not the same rotundity of the part and the deformity may be made to disappear by sufficient traction to overcome the spasmodic ac-

-tion of the muscles. But in endeavouring to bring the parts to their natural position there is a circumstance which frequently induces the young & inexperienced Practitioner to suppose that he has overcome the shortening - that is, the pelvis yields to the traction unless firmly held by an assistant, and the shortening is apparently overcome whereas in reality the position of the pelvis alone has been changed. — The proper mode of proceeding is to measure from the anterior-superior spinous process of each ilium to the patella on each side. — There is pain in the upper and inner side of the thigh in the direction of the psoas magnus and iliacus internus muscles, which is increased when the weight of the body is allowed to rest upon the limb. Crepitation may be produced by rotating the limb or by extending and suddenly relaxing it by which means the fragments will be made to glide over each other — The crepitus however may be the result of disease and absorption of the cartilages of the joint, & should not be depended upon alone. — Another important sign may be furnished by applying the hand to the great trochan-

-er and directing an assistant to rotate the limb, when the circle described by the trochanter will be appreciably smaller than on the sound side. The patient is incapable of moving the limb. — Again the position of the foot is so characteristic of this species of injury that when taken into consideration together with the abovementioned symptoms, it can scarcely be mistaken. & he who should fail to recognise the injury sustained by the patient is altogether unworthy the confidence of the suffering part of the populace.

The epiphysis may be struck off by an oblique force coming directly upon the cervix, or in young subjects by the ordinary species of violence which act upon this portion of the bone. — In case the epiphysis be struck off, the limb is drawn forwards and is thus made to resemble dislocation, the characteristic tumour of luxation being present at the same time. — Crepitation then is the only diagnostic symptom upon which we can rely with any safety. —

Fracture of the cervix exterior to the capsular ligament involving the great trochanter is effect-

-ed by an oblique blow directly upon the part — In this case there will be more fever, swelling and pain than when the fracture is within the ligament. — The principal dif-
-ference and an important one it is between this and the preceeding injuries is that bony union will generally take place. — Moreover when the neck is struck off exterior to the ligament independently of the trochanter, instead of the natural obliquity of the cervix to the shaft, it unites at right angles and the trochanter is carried an inch above its natural position. — The remaining symptoms are identical with those which characteristic of fractures within the capsular ligament. — It would be well to remark here that nature together with the feeble aid that art furnishes can rarely effect a cure and bring about bony union on account of the extreme difficulty and almost utter impossibility to keep the parts in contact owing to the unavoid
-able gliding of the fragments over each other; on account of the weight of the body and the impossibility to afford sufficient mechanical support. Again the feeble vitality of the head and cervix they being supplied with nour-

-ishment by the round ligament and delicate periosteum, the parts being continually bathed in synovial fluid and the absence of cellular tis-sue preventing the formation of a provisional callus we need scarce hope to accomplish a perfect union. — In a majority of cases strong ligamentous union ensues accompanied by some shortening of the limb together with malposi-tion of the foot. Notwithstanding these facts Mr Amesbury maintains that bony union may result in young or middle aged subjects of strong constitutions — although Sir Astley Coop-er is of an opposite opinion. According to Dr Druit the lower fragment frequently becomes rounded and covered with a smooth porcelainous depos-ite, the head of the bone is absorbed and thus a kind of socket is formed in which this imper-fect species of ball works. — Notwithstanding these Herculean difficulties it is the duty of every surgeon to attempt to effect bony union, but if the patient be old and feeble the endeavor to bring about such union should not be perse-vered in too long, for by long confinement we

merely hasten the extinction of the faint sparks of vitality which remain.

The principal duty of the surgeon is to keep the parts as nearly in apposition as possible by extension & counterextension which may be accomplished by the apparatus of Professor Smith, a description of which I will defer until I speak of fractures of the shaft of the bone. The hip piece should be employed to support the fragments, the under part of the thigh part fitting close up in the perineum, the foot of the bead being elevated. & the apparatus suspended, the patient is relieved of the disagreable necessity of maintaining one continued position. — The tendency of the fragments to become separated is partially if not completely obviated by the bandage which binds the hip-piece to the pelvis. — In the treatment of these fractures Mr Pott recommends that the patient be placed upon the injured side — a deal board which has been previously hollowed out, padded & fitted to the thigh on the outside — another board is to be placed on the inside of both are to be bound together by the many tailed bandage; the leg is

then to be flexed upon the thigh, by which means it was supposed, all the muscles would be relaxed, than which nothing could be more absurd. — This distinguished gentleman recommends furthermore that the leg and foot be elevated which it must be evident to the merest tyro of surgery would only tend to increase the tendency to malplacement of the fragments & deformity Strange to say! Mr. Abernethy approves of this treatment and adds that the patient by maintaining the position for sometime although forms a firm cast in the bed! With all due deference to this high authority I cannot conceive that such a thing could result unless this eminent Surgeon had reference to a bed of mortar. The objections to this plan of treatment must be evident to the most superficial observer; in the first place the position supposing for a moment that the patient could maintain it any length of time, would inevitably give rise to sloughing of the integuments about the trochanter. — The second objection is that the patient would involuntarily fall into the supine

pistore as often as placed on his side and thus continually disturb the fragments & require the presence of the Surgeon to replace them continually — Professor Gibson's plan, which consists in placing the patient between two long splints extending from the axilla beyond the feet and confining him by means of bandages. This it is evident would interfere very much with the respiration of the patient a very important objection, — and confine the sound limb for which there is no necessity.

The trochanter major may be struck off by a direct blow or by a fall upon the hip or by the spasmodic action of the glutei muscles, which are inserted into its head.

Symptoms. The trochanter is drawn upwards by the muscles inserted into it, the patient is incapable of abducting the thigh, the other movements of the limb being performed with facility — These symptoms tell us immediately what is to be done. The fragment is to be replaced if possible & maintained in its proper position by means of compresses and bandages around the hip and pelvis,

the limb should be placed in the most favour-
-able attitude for relaxing the glutei muscles
by means of bandages, which is all that can be done.

Fractures just below the trochanter are not
very easily recognized, there is however some dis-
-placement – Crepitation & according to Mr. Amesbury
the superior fragment is flexed upon the pelvis,
forming an angle with the lower fragment,
on account of the contraction of the Psoas
magnus and Iliacus internus muscles. The
pectineus and adductors tend to draw the in-
-ferior fragment slightly inward. Hence the rea-
-son why many authors speak of this as the
most unfavourable position in which fractures
of the femur could occur – The foot and toe are
slightly everted and the angular deformity
may be increased by varying the position of
the lower fragment, or may be caused to
disappear entirely by gentle traction & extension
of the limb, the attitude of which must be such
as to relax those muscles which give rise to the
deformity, which circumstances tell us imme-
-diately what is to be done –. Another important

circumstance in the diagnosis is the utter inabil-ity on the part of the patient to exercise the limb.

Treatment. The indications are viz.

1st. To overcome the powerful contractions of the flexor muscles.

2nd. To fix the pelvis, in order to prevent the motion of the upper fragment

3rd. To elevate the lower portion of the bone and bring it in a line with the upper.

4th. To keep up extension and counterextension

5th. To keep the fragments in perfect apposition

6th. To keep the foot in its natural position. —

Short splints will not fulfil these indications for reasons to obvious to require notice. — The double inclined plane & common fracture box both increase the tendency to deformity by el-evating the leg and thigh & allowing the upper fragment to be forced against the lower, & be thrown out of place by the gravitation of the body to the foot of the bed. Messrs Dessault & Boyers plan consists in using straight splints; now in order to keep the fragments in apposition it must become necessary to bind the limb firmly — nay - injuriously to these splints & every motion of the body would disturb the relation of the parts. —

Mr. Amesbury has great confidence in his fracture bed, consisting of three inclined planes. This distinguished author says that all the indications, may be fulfilled by this apparatus; but the same objection which is made to the double inclined plane holds good in this contrivance. But of all the apparatuses divised for fractures of the lower extremities, none so completely answers the above mentioned indications as Prof. N. R. Smith's.

The fragments being carefully adjusted the limb is laid in the apparatus, the many tailed bandage being previously laid over it. Extension is made by means of a strong cord which is attached to the tester of the bed or ceiling which suspends the apparatus, to which it should be attached at the knee obliquely - the foot of the bed is to be elevated so that the tendency of the body to gravitate towards it will be completely obviated - the hip piece must be bound to the pelvis by means of a bandage - the thigh piece to be buckled on snugly in order to keep the fragments in their proper place. In most cases from 4 to 6 will be sufficient for the reparation of the injury.

Fractures occur more frequently at the middle third than at any other point. owing to the small size of the bone at this situation in comparison to that of the extremities. there are two varieties: the oblique and transverse. The former is produced by the counterstroke from a fall upon the foot or knee from a considerable height – The fragments being sharp provoke the muscle to contract spasmodically. & thus they are made to glide by each other – the superior being either anterior, posterior, or laterally on either side according to the direction of the obliquity, which should be carefully noticed as it will frequently suggest to us some important modification in the plan of treatment.

These accidents are more easily recognised than any other to which the femur is liable. – The position of the limb of itself will frequently enable us to detect a fracture. – The soft parts are sometimes transfixed a compound injury results & in such case Mr Amesbury recommends that the extremities of the sharp fragments be sawed off & returned to their proper places this expedient, however should never be resorted to when it can be avoided – as the limb will then be much shorter – The transverse fracture is effected by the passage of a

heavy waggon, or cart wheel while the patient lies upon the ground, & it does not unfrequently happen that the injury is compound and comminuted, In general the deformity is not very great owing to the extensive surfaces of the two extremities and owing to the absence of the stimulus of the oblique fragments: Yet when there is laceration of the contiguous textures the deformity will be considerable - Crepitation may be produced, by the usual mode of manipulation - It would be well to remark here that unnecessary endeavors to produce crepitus often accomplish much mischief by disturbing the numerous small fragments which surround the margin of the fractured surfaces - and thus preventing bony union. The femur may be fractured just above the condyles by the same species of violence & may be either oblique or transverse. The inferior fragment is drawn down into the popliteal space by the gastrocnemius muscle, accomplishing a great deal of mischief by compressing the artery and nerve, sometimes rupturing the artery, greatly wounding the soft parts which renders Amputation indispensable. Accompanying this accident then may be one of far more formidable character, the condyles may be com-

-pletely separated by a fall upon the knee by which means the patella is forcibly driven between them like a wedge.— In this case there is more swelling & deformity & the pain is excruciating - the synovial membrane becoming inflam- -ed very soon which renders it a very serious accident requi- -ring in almost every instance immediate amputation — This accident is liable to be confounded with luxation but may be distinguished from it by the increase of size latterally motion - crepitation & the tumour caused by the amount of blood which is poured into the cavity of the joint — The internal condyle being more prominent & exposed than the external may be struck off. by direct violence, as a fall upon it from a considerable height. — There is here as in the case just mentioned an appreciable tumour caused by blood poured into the cavity of the articulation there is little or no displacement - but crepitus may be produced by grasping the ankle, making flexion and extension & then a little lateral motion.

The treatment of middle and lower thirds the same as that mentioned in the superior third with a slight change in the angle of Dr Smith's apparatus so as to place the limb in the most comfortable attitude. — Amesbury's

apparatus for the treatment of these accidents, has many advantages to recommend it: yet there is this serious objections to all these apparatuses: namely, that the pressure is not uniform & those parts upon which most of the weight of the limb rests slough and give rise way to ill conditioned ulcers which require the utmost skill to cure. — Besides there is the same objection which I have found with all his splints — that the fragments will inevitably be disturbed by every motion of the body. — In the treatment of fractures just above the condyle. Mr Amesbury recommends the extended position & relies chiefly upon bandages. Sir Astley Cooper also relies upon the use of bandages.

Professor Smith's plan I think preferable to any other, & it is that which I would strictly adhere too in all instances. Having carefully placed the injured limb in his apparatus in the extended position the cord is attached directly over the seat of injury.

In spite of all our endeavours, in nine cases out of ten the limb saved will remain perfectly inflexible at this joint. —

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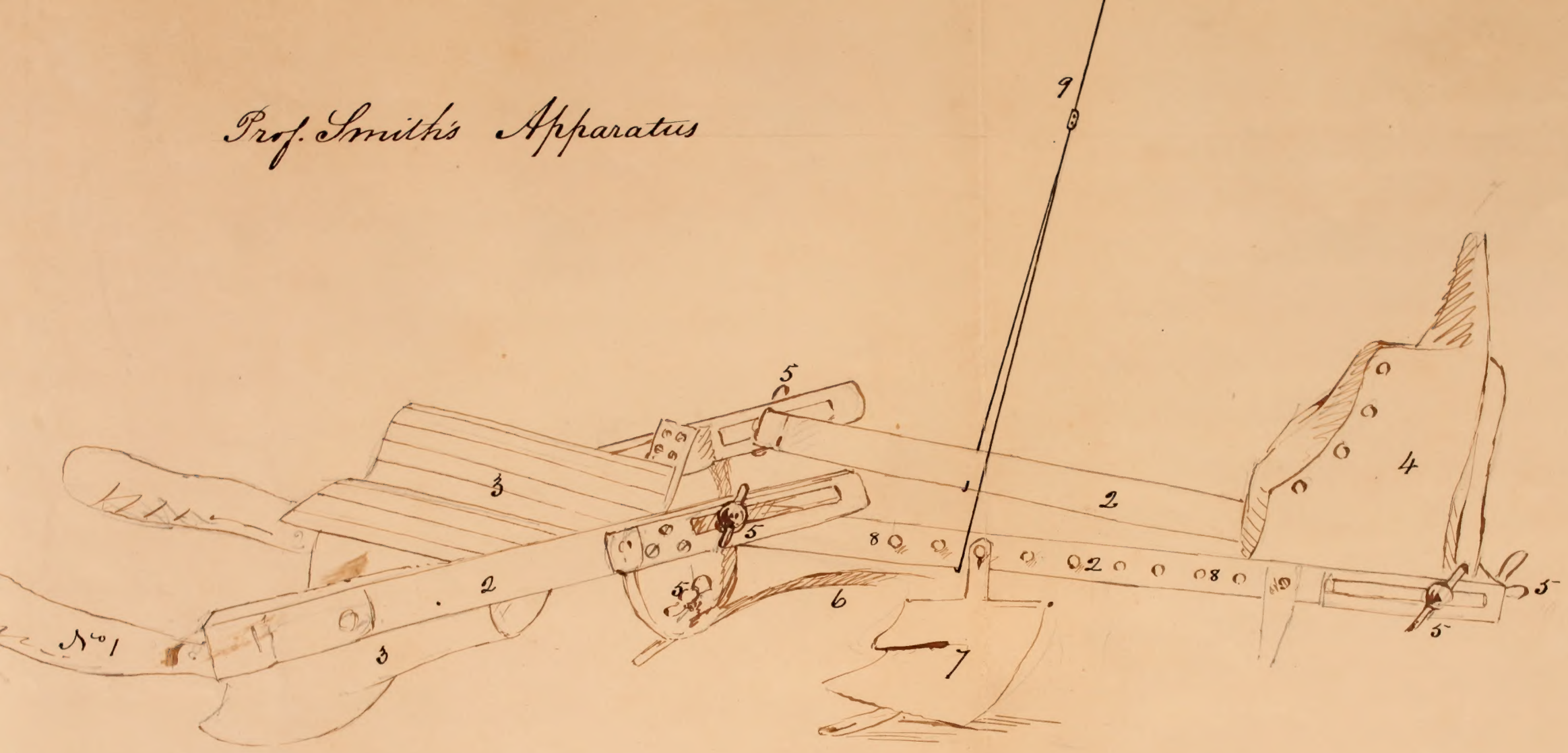
Prof. Smith's Apparatus



No 1. Hip piece.
2. Frame for thigh & Leg.
3. Thigh pieces, upper, & lower.
4. Shoe.
5. Thumb screws by which the Apparatus may be lengthened.
6. Steel rod by which the angle may be increased or diminished
7. Pads for calf of the leg.
8. Brass nails to which the pads are attached
9. Cord by which the Apparatus is suspended.

Having thus given the particular treatment of each injury in as complete a manner as time and circumstances would allow. I will conclude by making a few remarks as to the general treatment and diet. The condition of the patient should be carefully & closely observed. His bowels should be kept free by the judicious employment of mild aperi-ents. — All febrile symptoms should be immediate-ly subdued, not however by such means as would prostrate the system of the patient. — As to the diet it should not be too meagre. — Mild, bland articles of nourishment should be employed, refraining from all coarse stimulating food. — Strict abstinence from all stimulating drinks —. If the patient be already enfee-bled he must be treated with tonics & his system should be supported by stimuli — as porter, ale, &c. Should there be ~~any pain~~ a great deal of pain, giving rise to restless and absence of sleep an anodyne ought to be administered at the usual hour of bed time in order to secure a good night's rest — for this purpose the Comp. pow. of Ipecac. or Dovers powder may be given in doses of from ten to fifteen grains — or tincture of opium in doses of from Twenty to Thirty drops gradually increased until the desired effect is produced. —

An Inaugural Dissertation
on
Carcinoma
Submitted to the examination
of the Provost Regents
and Faculty of Physic
of the University of Maryland
for the
Degree of Doctor of Medicine
on the first of March 1843
By
Robert C. Hilliard
of Virginia

Carcinoma

The disease I am about to describe, from all time has been looked upon with a degree of terror rarely exhibited in any other — and this is easily accounted for — no one is so ignorant of its character as not to know its fatal tendency, and for ages the knowledge and art of the Surgeon were only beneficial to him in being able first to recognize the true nature of the disease. This advantage was short-lived and of but little avail, for soon the open cancer unfolded itself to all. A disease so loathsome and so destructive, particularly before the lights of Surgery burst upon the world, and more particularly before the many valuable and important improvements had been made in that noble department of Medical Science, was well calculated to alarm even the stout hearted, and to make the most timid quail.
A man thus diseased despairing of aid from the profession the constant object of pain

of body, and intense agony of mind, looked only to his God for that help which his fellow man could not furnish, and thus pining without hope, awaited the dread issue.
Those whose fortune it is to live in this age, may be happy in the knowledge that the art of the Surgeon holds out to them some hopes of relief.
Cancer is called by different names according to its appearance and condition at different stages of its existence. In its inception it is called a Scirrhus, from the hard compact consistence which is discovered on pressure. This hardness is confined more particularly to the centre of the tumour, and has been compared in feeling to cartilage. The middle portion of the tumour in which the scirrhous character is more apparent is generally not more than half an inch in diameter, and from it, pass off narrow white bands of a fibrous texture in the directions of the edges of the tumour — The parts between the centre and circumference

of the tumour are less firm, and somewhat cellular and cribriform in construction, which answers well the purpose of containing the fluid about to be generated. As the disease advances the parts present a more uniform appearance — the central portion has become disorganized or absorbed, its lines of demarkation are distinctly drawn, and it is now easily to be distinguished from the surrounding glands. The external appearance of a scirrhous tumour is irregular and unequal, is wrinkled and of a dark leaden colour. The pain is of a lancinating biting kind, and is described as peculiarly distinping — about this time it obtains a firm hold, by adhesion with the muscles, and is fast verging into the cancerous ulcer. A scirrhous tumour thus described is denominated occult, for the reason that it is not fully developed. Mr. Pearson says that "when a malignant scirrhus or a watery excrescence hath proceeded to a point of ulceration, attended with a constant sense of ardent and

occasionally shooting pains, is irregular in its figure, and presents an unequal surface; if it discharges acrid, sanious, or fetid matter; if the edges of the sore be thick, indurated, and often exquisitely painful, sometimes inverted, — at other times everted, and exhibit a serrated appearance: and should the ulcer in its progress be frequently attended with haemorrhage in consequence of the erosion of blood vessels; there will be little hazard of mistake in calling it a cancerous ulcer".

A cancerous ulcer frequently bleeds from very slight causes, and sometimes spontaneously, is of a dark colour around the margin, the surface being of a dark red. When that condition takes place which gives us open cancer, a discharge commences of an acrid, corroding ichor, fetid in scent, and thin in consistence, which seems to hasten the ulcerative process, but probably its spread is owing to the irritation of foreign substances brought in contact

with it as remains; air, and its own inherent poison, the action of which is now favored by exposure. A new view embracing the above characteristics is called open Cancer, and its name is derived from its resemblance to a crab, with the legs of the animal extended.

By the Romans it was called Lupus, either because it eats away the flesh like a wolf, or from the singular gnawing or biting sensation experienced by the subject of it. Dr. Cullen places this genus of disease in the class Locales ~~and~~ and order tumors, and defines it a painful scirrhous tumor, terminating in a fatal ulcer. There is great difficulty in diagnosing Cancer in its scirrhous condition, for tumors presenting similar appearances often exist, not having its malignant nature, and the best general rule, perhaps, which should guide us in deciding upon its character, is that which refers us to the constitutional peculiarities of the patient. Every part almost

of the body is subject to Cancer and especially the glands - In males the tongue and mouth are considered more the objects of its attack than other portions of the body - The penis and scrotum also frequently suffer. In females the mammae or uterus are most liable to it, particularly about the period they are disqualified by nature for reproduction - From this circumstance I should infer that ~~those women~~ who suffer from Amenorrhoea or Dysmenorrhoea or other derangements of the Uterus, are more subject to the disease than those who have been regular and healthy in the functions of that organ - Cancer of the ovaria is of frequent occurrence, so also of the vagina. Dr. W Gibson in his work on Surgery says, "It is a disputed point, whether Cancer be a local or constitutional disease, There is so much evidence, however, now extant in favour of the former position as to leave very little doubt on the subject, and indeed to render it very questionable whether

Cancer ever becomes strictly speaking a con-
-stitutional affection". To this doctrine, with
my present limited information upon the
subject, I cannot agree —
It is said that in endemic diseases, the cause
operates generally or constitutionally — if so the
Cancer Scroti or chimney sweepers Cancer of
England must be of that character —
general causes operate generally. It appears
to me that if cancer be a local disease the
difficulty of discovering its cause would
be greatly diminished. It will be admitted
that Gout is hereditary, and consequently
constitutional, yet its effects primarily are
local: why not so with Cancer? That there
exists in the system a predisposition to cancer
is shown by the fact, that it frequently
attacks different parts at the same time —
both breasts, also one breast and the
uterus occasionally suffer at the same
time. Another proof that Cancer is of a

constitutional diathesis is the fact, that scrofulous subjects are more the victims of its attacks than others. These facts are of considerable importance, and strengthen very much the opinion, that it is not a local affection. Bushby a Chirurgeon who published about two hundred and forty years ago, and one of some distinction in his day, and certainly distinguished for the singular character of his remedies and prescriptions, defines Cancer to be a "Tumour besides nature, sprung from Black Choler, round, hard, livid, painful, full of turgid veins, resembling the foot of a Crab."
The above quotation is curious, and as such I only make it. I suppose now, no one could be found, so far in the rear of the present improved state of Medical Science, as to advocate the origin of Cancer from Black Choler. The same author attributes the cause of Scirrhous tumour (and he distinguishes this from cancerous tumour, but admits that the former may run into the latter) to Melancholly.

I should rather suppose that his cause, is in fact, the effect of the disease, since I can readily conceive that such a condition of the mind, would be the consequence of a constant impression upon it, of the fatality of a disease under which the body might be labouring. Dr. Gibson says—"as regards the immediate cause of Cancer innumerable hypothesis have been framed. That which approaches nearest to truth, it seems to me, ascribes the disease to animalcular origin, or as contended by Adams and Carmichael, to the presence of hydatids—thus giving to Cancer an independent vitality". It is true that animalculae exist in various portions of the human body, and perhaps in every part of it, and if Dr. Gibson's position is correct, we should have cancer as common as intermittent fever, since the cause is universal and eternally operating— But here too, I must think that his cause is the effect. Who will say that Psora and Variola are of animalcular origin? diseases universally

known to be contagious, yet in the eruptions or pustules of them, animalculae may be seen. In all cases of ulcers, whether Carcinomatous or otherwise there is more or less dead flesh — it is constantly decaying, and as constantly sloughing away. This state of putrefaction is peculiarly favorable to the production of animalculae whose natural element alone it is. Their existence under these circumstances is dependent upon the process of ulceration, instead of their being its cause. They exist in the body as part of its organization, supported or nourished perhaps by the ill condition of its fluids, to be generated still farther by the decay and putrefaction of the solids. Dr. Gibson further says "in many instances the disease may be traced to a blow, or some external injury, by which the organization is altered, and a predisposition given to morbid action" — Now in my humble opinion predisposition to morbid action already exists, and the

injury only developes it. The remote cause of cancer is, as I have hinted general, and the slightest injuries done to the system, induces sometimes its action. These are external and such as arise from want of healthy action in the secretory apparatus. It is most frequently seen in subjects of a scrofulous diathesis, as I have said before, and its cause would seem sometimes to exist in a deranged condition of the glands, produced by the cessation of their secretory functions — Thus at the period appointed for the discontinuance of the Catamenia it oftener appears than at other times, and most usually attacks the Mammae or uterus. In both sexes when the vigour of the system, and the powers of life are fast failing, the glands secrete sluggishly and perhaps with difficulty, we meet with it more frequently than at earlier periods — when the system is untrammelled by age, and when the mind is buoyant with hopes of happiness —

yet never to be realized. Climate in some degree influences the disease. It is stated by Dr. Adams to be exceedingly rare in Madeira, he having seen only two cases in an occult, and one in an ulcerated state — and when existing generally unattended with pain, and of many years standing. Persons afflicted with the disease have been much benefitted by a residence in tropical climates, the temperature probably favouring the natural aspect of constitution, or sustaining the system by its soft and genial influence. —

In the treatment of Cancer we often meet with difficulties perfectly insurmountable, but happily for mankind not always — for although it is now well established, that the Materia Medica with its vast resources has no effectual power over this terrible disease, the knife guided by a judicious Surgeon, and applied at the proper time, will not only stay its ravages, but frequently eradicate every vestage of the disease — Too long delayed it also proves unavailing. —

A lamentable truth, however in the history of this disease remains to be told — The operation may be made at the proper time, in the most skillful manner, and under the most favour-able circumstances, and yet terminate unsuc-cessfully. This truth again refers us to its constitutional character, and sustains well the position, that it is neither of "animalcular origin" or a "local affection" —
Its progress may be checked by a correct diet and severe regimen, but few patients have the physosophy to abide such treatment, or even to persue it long enough to derive any per-manent advantage from it. No better proof is wanted of the difficulty of curing Cancer than the fact, that almost every prominent article of the Materia Medica has been employed, and hitherto without avail. A species of empyricism has been persued in the management of Cancer, which although in such a case is justifiable, proclaims unfortunately that we are yet in the dark as to its true nature. — For instance

Medicines whose action is different, producing different effects have alike been employed, thus Tonics and then Narcotics.
All articles whose ultimate action is to depress the vital energies, I should consider of no importance, and of course should prefer a class of more invigorating properties — this observation however, is to be modified according as the system is more or less debilitated. Some of the most prominent articles that have been employed with a view to the cure of cancer are as follows. Hyoscyamus Niger in large doses, the part to be washed with the decoction, and covered with the leaves. Atropa Belladona has been used with some advantage by the German Physicians, and maintains some character in our own country as a remedy. By Baron Stoerck, Cicuta Maculatum was employed, and was at one time thought to be a specific, but upon farther trial, was found to be only a palliative. Solanum Nigrum and Solanum Dulcamara have also been used with similar effects. —

That powerful article Hydrocyanic Acid for a time was extolled as a remedy, but now ascertained to possess very little efficacy. — From the known and active influence of Mercury over the system, it was thought this medicine might prove valuable, and its various preparations were freely used, but here too we have to acknowledge not only its want of power, but to record its injurious tendencies. Akenside and De Haen recommended Cinchona Officinalis, and it also has been declared — cient. Iodine for a while employed the mind, and stimulated the hopes of the experimentalist, that in it, he would find a cure, I need not say, that these hopes have never been realized — although its virtues in Scrofulous affections is unquestionable, it has no claims as a cure for Cancer. Iron has also been employed as reported with much effect, and no doubt is an agent of some power, but should be classed with the inefficient remedies. — Of all medicines Arsenic is now allowed to be the most active in subduing and

counterveiling the progress of this intractable disease — tumours presenting some of the characteristics of Scirrhus, it has resisted — But that disease in its true garb has hitherto defied its power, and we can have little hope that it ever will be employed successfully in conquering that terrible complaint.
Caustics have been fully used, and have been found not only incapable of effecting a cure, but tend greatly to agravate the symptoms. Their use should be discouraged.
Excision confidently is the most effectual mode of subduing the disease. The proper time to enforce this practice is as soon as the nature of the tumour is recognized, I would rather say suspected, since by it so much is to be gained, and so little lost.
It should be remembered, that in all operations for Cancer every portion of the contaminated flesh should be removed. It is required to dissect away the facia underneath the tumour, the cellular tissue being supposed by some to be the seat of Cancer. —

It is important also to keep down inflamation and procure union of the wound by the first intention, or as soon as possible, as irritation may redevelop it, particularly if the patient be of a scrofulous habit. By these means its return may be prevented. When the operation fails and the disease recurs, it progresses with frightful rapidity, and soon terminates the case in death.

In cancer of the Eye, the organ being an important one, operations are seldom performed in time — the delicacy of its structure the excessive pain that is generally supposed to attend operations upon it, added to the idea of mutilation, deters patients from it, untill all hope of safety deserts them, and then of course it is too late.

It has been proposed to extirpate cancer of the tongue by the ligature, and this has been done by Mr. Home with repeated success — It may answer, but the necessary degree of irritation created by it, certainly is an objection to the plan. In all such cases

I should prefer the knife. In all cases of cancer of the breast, lip, testicle and other exposed parts in which it may occur, it becomes us to operate - and in operating this rule should be borne in mind, to cut in the direction of the muscular fibre, by which you prevent the gapeing of the wound, and can more easily approximate its lips. Lisfranc is reported to have extir-pated cancer of the arms - The propriety of this operation has been questioned by Dr. Gibson - life in such a case cannot be of long duration, and being one of pain, and misery at best I should sanction the op-eration - where it is not practicable - Carbonic Acid is serviceable in its treat-ment - Cancer of the pylorus, bladder, prostate gland, &c, necessarily terminate fatally. Cancer of the Uterus may sometimes be recognized by swelled thigh, and labia pain in the part, accompanied with a peculiar discharge - It is considered be-yond the reach of any remedy; and

all that can be done is to palliate the severity of the symptoms. This in some degree will be accomplished by the free use of anodynes, astringent injections, the warm bath, very low diet, rest, keeping the patient's bowels in a soluable condition, and sustaining the system by gentle tonics —

In concluding this paper prepared amidst the press of laborious duties, and necessarily very imperfect — I will only say — that — entire freedom from disease, or ability to cure it, argues to much the perfection of our nature, and the skill of the Surgeon — It can never be the happy lot of man imperfectly organized as he is, to be in a condition superior to the ills of life, or to arrive at a degree of skill in the art of curing, as shall shield him from the destructive encroachments of those ills. —

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On Gout.

The greater number of authors upon Gout, from the earliest period to the present, have adopted a species of empiricism, in establishing their whole rule of practice on some fanciful hypothesis of a proximate cause. Nor can the regular physician be entirely acquitted of having lent his sanction to empirical remedies. In proof of this, I may advert to the medical patronage at one time so freely bestowed on the Eau Medicinale. Its magic powers of cure were very naturally hailed with delight by the suffering patient, and Gout no longer appeared a disease of difficult management, or a source of terror. The sequel, however has shown the fallacy of the charm; and has served to illustrate the fact, that those remedies are not best which hastily produce a palliative and transient relief; on the contrary, such as are administered upon sound general principles, are carefully adapted to the variations of every particular case and constitution; and are pursued with steadiness and perseverance.

That Gout is a disease not only injurious to the constitution, but destructive of the organization of the particular textures which it affects: and by such united influence tends, both to shorten and embitter life.

That it is as completely within the useful influence of medicine as any other disease.

That the fit may be immediately relieved in its painful symptoms and materially shortened in its duration:

That most of its natural bad consequences may by timely care, be prevented; and finally:—

That all these advantages may be afforded by means, which, in removing the disease, tend at the same time to restore the constitution.

The security of the patient from future attack is a question of separate consideration. It is true, that much depends on the treatment which the physician pursues during the paroxysm, and during the period of convalescence; but it depends upon the care the patient takes of himself. The Gouty diathesis being established in the constitution, it is excited to action by many remote causes; and, certainly, of the chronic diseases, this appears to be influenced by a greater variety of hurtful agents than any other. Hence, without corresponding observance of regimen, and general care, the disease, ere long, returns.

The prophylactic means, indeed, deserve the most serious and attentive consideration in every individual case. In no disease, however, can the skill of the practitioner be proof against a want of care in the general habits of the patient.

Gout is a constitutional disease, producing an external local in-

flammation of a specific kind; the susceptibility to it often depending on hereditary bodily conformation and constitution, but more frequently wholly acquired; not occurring before the age of puberty, seldom under the age of five-and-twenty, and most frequently between the ages of twenty-five and forty; affecting chiefly the male sex; and particularly persons of copious chests and plethoric habit; in the first attack, invading usually one foot only, and most frequently at the first joint of the great toe; but in its returns, affecting both feet, or other situations, as the hands, knees and elbows; and not only in the articular structure, but also in the other textures belonging to the moving powers, different parts being affected together, or in succession; often accompanied with sympathetic inflammatory fever, which is usually marked by nocturnal exacerbations and morning remissions; much disposed to return at periodical intervals, and for the most part preceded by some premonitory symptoms.

Acute Gout is characterized by inflammation and pain of the articular, tendinous, or bursal structure, usually attacking one part only at the same time; but in succession of attack, affecting different parts together; with preternatural fulness of the adjacent veins, and in certain situations, with œdematous swelling of the integuments occurring in twenty-four or forty-eight hours from the invasion of the fit, vivid redness of surface, which is sometimes shining, entire disability of the affected part, with peculiar sensations of burning, throb-

bing, cutting, pricking and weight, the action sometimes readily changing situations spontaneously, or from slight causes; terminating almost invariably without suppuration, and usually with some critical indications of the event.

On some occasions, and especially in the first fit, the immediate invasion of the disease is not preceded by any warning; but the patient after retiring with the ordinary feelings of health, is surprised in the night with the first symptoms of the disease; yet except in the first fit, it much more frequently happens, that some preceding symptoms intimate for several days, or give even a longer notice, that the Gout is at hand. The premonitory symptoms are:- depression of spirits, with drowsiness and frequent yawning, night-mare, and restless sleep; heart-burn, acidity of stomach, and sometimes to the degree of rejecting acid matter; flatulence; irregular appetite, with oppression after a meal; a frequent sense of coldness and soreness at the epigastric region; general itching of the skin; costive bowels, scanty urine and deep coloured, becoming turbid on cooling; pricking and numbness in the lower extremities, muscular twitchings during the day, and catchings or cramps in the night in upper or lower limbs, more particularly in the one which is about to be attacked; much coldness of the legs and feet, and occasional general chillness. The nervous system is often apprised of the approaching Gout by previous

lassitude, with much agitation of mind, palpitation of heart and internal flutterings.

A cough, with much mucous secretion in the bronchial membrane, sometimes precedes the fit; yielding when the gout becomes fixed, or occasionally continuing with other symptoms. This cough is to be distinguished entirely from the catarrhal cough and symptoms, which sometimes usher in a paroxysm, when exposure to wet and cold has been the exciting cause. The mucous membrane of parts which have been once affected with disease, or which are prone to disease, are much disposed to acquire a state of unhealthy action; in apparent sympathy, either with that condition which borders on a fit of the gout, or in which the disease is threatening its return but does not develope itself. A remarkable irritability of the bladder and urethra, with increased secretion in the mucous membrane of these parts, prevails in some persons shortly before the fit, and in those, whose urethra is affected with stricture, these symptoms almost with certainty take place. In addition to the local premonitory symptoms already mentioned, the following also occur; unusual weakness and tenderness of joints, and more particularly in the limb threatened with immediate Gout, accompanied with shortness, numbness, pricklings and transient spasms; a fulness of the veins of the limbs, and dark color of the skin in the part about to be affected with inflammation.

A swelling of the feet after slight exercise, with uneasy stiffness, and a dry state of the skin with more or less of heat in the soles of the feet, a sudden cessation of the usual perspiration of the feet is also noticed by some persons just before the paroxysm.

The symptoms of a first fit. Whether any premonitory symptoms have occurred, or that the patient is seized with Gout, while in the apparent state of perfect health, the most frequent time of the active invasion of the fit, is between twelve and three in the morning; the exact period being liable to some variation, according to the habits of the individual and his hour of rest. He is suddenly awoke with pain in the affected part, which is most commonly the ball of the great toe of one foot only; and immediately experiences in a slight degree, sensations of heat, stiffness, and weight; which soon increase to burning and throbbing. He is restless, peevish, and watchful, till about five or six in the morning, when, under favourable circumstances, an abatement of the symptoms, with gentle perspiration, permits some tolerable sleep; usually on the first morning, the surrounding integuments are swollen, the skin is slightly red, and the veins of the foot in a direct line from the inflamed part, appear remarkably full. In a severe attack, there is scarcely any remission of the symptoms for two

or three days; but more usually, they are suspended or remitted in the day, and return with violence late in the evening, even on the first morning of the disease, the integuments pit slightly on pressure, and on the second morning this effect is very distinct. The surface is now of a vivid scarlet-red. The patient complains of shooting pain, throbbing heat and weight. The pyrexia, and disorder of the natural functions, as dependant on the first fit, appear to be truly sympathetic, and are proportioned to the local inflammation and pain. In very slight attacks, the sensible influence of the disease upon the system is so moderate, that the patient is apt to think he has received a strain or some kind of local injury and treats it accordingly.

The frequency of the returns of Gout after the first fit, is in proportion to the constitutional tendency to the disease, and to the unfavourable mode of life of the individual. If the toe of either foot was the affected part in the first fit, the same toe is most frequently the part invaded in the second fit; but it seldom happens that the other foot escapes. The phenomena which arise, are similar in their character to those which I have already described, but are more marked in their degree, are of longer duration, and from the connexion which the local symptoms are discovered to have with the general system, the constitutional nature of the disease becomes gradually

more and more manifest. As the disposition of the constitution of Gout increases, the intervals are shorter, the fits of longer duration, and the parts affected more numerous.

The Gout more than any other of the phlegmasia, is disposed to relapse at periodical intervals, and sometimes in its annual visit, is punctual almost to a day. In some individuals, the disease never chooses any other situation than the feet; but in the greater number of examples, in the course of its progress, many parts become affected in the same paroxysm; and although the inflammation establishes itself in its different seats, in succession, it often occupies many parts at the same time; either raging with pain in all its situations simultaneously; or affecting the different parts successively, with alternate violence. The feet, knees, hands and elbows, become indiscriminately affected; and together with the ligaments of the joints, the bursa mucosa, the sheaths of the tendons, and the muscular aponeurosis, in various situations, are the frequent seats of the disease. The whole tendinous portion of the gastrocnemius muscle sometimes becomes severely affected. In some members to the disease, not only the shoulders, but even the hips themselves are now and then affected with all the characteristic pains of the disorder, in the course of a long fit. The rapid and indeed instantaneous manner, with which, the inflammation sometimes leaves one part, and attacks another in the same or another

limb, is not the least singular among the various characters of Gout. As in the early attacks of the disease, so in all its returns, the night is the most common time of its invasion, and the period of the greatest suffering; yet instances are not unfrequent, in which the patient is surprised in the day by this unwelcome visitor, and almost in a manner incredibly sudden. With some, the pain prevails most during the day, and night brings a little soothing influence of sleep: but to others, but neither day nor night scarcely give any intermission of torture, for the first few days of an inveterate attack. The external appearances of the disease vary much according to the situation, and particular texture of the part which is affected. The redness of surface, together with œdematous swelling, are most remarkable on the great toe, on the foot, the back of the hand, and at the elbow; while at the ankle, knee, and wrist, the increased bulk is produced chiefly by the distention of the bursæ, and of the sheaths of the tendons, and takes place, often with little change in the natural colour of the skin. If there be redness, it appears in these parts, chiefly in patches. In the situations before mentioned, the colour, which continues for some time to be of a scarlet red, is diffused over a considerable extent of surface, and occasionally assumes the aspect of spreading erysipelatous efflorescence. When the bursæ mucosæ are affected with gouty inflammation, they become distended, are exquisitely tender and painful, and often increase to a great size suddenly

Sydenham observes, sometimes the morbific matter is thrown upon the elbows, and occasions a whitish swelling almost as large as an egg, which becomes gradually inflamed and red." This swelling is considered the enlarged bursa. Sometimes these local distentions subside suddenly, but more commonly they continue permanent, tedious and often embrocated. The affected tendons, when carefully examined appear to be much thickened; and sometimes seem not only large, distended and rigid, but also inseparably matted together. In urgent and continued Gout, the veins of the whole limb are preternaturally distended with blood, and when contrasted with the healthy limb, present the appearance of universal fullness. This state of the veins is most remarkable in the leg, but in the arm it is also very distinct. Near the part inflamed, the venous branches appear very numerous, diverging in their course, and almost bursting from fullness. The congestion which is here represented, becomes in some degree diminished, when abundant effusion into the cellular membrane has taken place ~~into~~ at the Gouty part, but even then the symptoms soon become aggravated by any attempt to keep the limb in a depending position; and if the patient endeavour to raise it even in a small degree, he feels it restrained, as if by a heavy and irresistible weight. The disabled appearance of parts which have been long subject to the ravages of Gouty inflammation, an appearance which is sometimes so distinctly marked as to resemble paralysis, is most strikingly exhibited in the hands and individual fingers.

The pain which is inflicted by Gout, is much more severe than that from almost any other kind of inflammation; and the complicated sensations that result from it, are really of a nature peculiar to the disease.

In slight attacks of the Gout it sometimes happens, that the secretions do not exhibit to the eye any morbid appearance; but in severe cases, the digestive functions are evidently affected, as is shown by the following indications; The tongue is furred; there is thirst and lost of appetite. The stomach is affected with flatulency, occasional spasms, and many uneasy sensations. In conjunctions with nausea, and sour eructations, a watery fluid is sometimes rejected, which is very acrid and acid. It is either colourless or a grass green appearance, and, in a long fit, this occurrence happens from time to time. The bowels are for the most part torpid; and, being excited by medicine, the faces appear unusually foul and offensive, are darker in colour, and are often loaded with vitiated mucus.

The urine is of deeper colour than natural, is secreted scantily with relation to the quantity of the patients drink; and, on cooling, deposits a pink or brick dust sediment, with much mucus. During the most urgent symptoms of the paroxysm, it is usually passed with considerable irritation, both as to frequency and sense of heat. The pink or lateritious sediment appears, more or less, in every portion of the urine, during the inflammatory symptoms. When

these have entirely subsided, and the state of the liver remains unhealthy, the sediment of the urine often assumes a whitish colour, and is compared by the patient to the appearance of magnesia. This and the pink sediment frequently alternate, the one or the other appearing, as inflammatory or nervous action most prevails. The sensibility of the nervous system, as is shewn by what has been related of the sensations of the inflamed parts, is in a high state of morbid excitement. Painful haemorrhoids, with occasional discharge of blood, sometimes accompany the Gout. The same internal causes which support a tedious and harassing continuance of the fit, also often induce a severe relapse, at a moment when the patient flatters himself with expectation of recovery. In this condition of the constitution, a relapse may follow a slight application of any of the remote causes. The restoration of general health and vigour sometimes precedes the recovery of the limb; but at other times is delayed till long afterwards. With respect to the length of the interval between the paroxysms, Sydenham observed, "according as the immediately preceding fit has been more or less severe, the following fit comes on in a longer or shorter space of time; for, if the last fit proves violent, the next will not attack the patient till the same season of the year returns again. This observation is not without its share of truth; but it may be remarked, that the benefit of a longer respite is in this manner dearly purchased; nor is the advantage certain. A long and violent fit is often fol-

succeeded by another of equal magnitude, in the same year. Finally, it may with little exception be stated of the Gout, that it acquires strength with each returning fit, both as to the number of parts which it attacks; and as to the duration and degree of suffering; and that it does not like some chronic diseases, wear itself out by repetition, and yield to the friendly power of time. Both constitutionally and locally, also, the susceptibility to the disease increases. A premature old age comes on; and, together with crippled and painful limbs, the nervous system is so enfeebled, that both body and mind grow less equal to sustain the conflict. Such is the melancholy but faithful portrait of the disease, when it is permitted to pursue its natural course; such is the sad and certain tyranny of neglected and encouraged Gout.

The same state of the system from which gout has been often produced, sometimes gives rise to apoplexy and paralytic affections; and very usually induces cramps, and nervous irritation and wandering pains. A diseased condition of liver, sometimes proceeding even to a natural change of structure, belongs to the train of gouty evils; for seldom, indeed, is the action of this organ healthy, either before or during the paroxysm. The stomach often becomes permanently weakened; or even where it continues in due vigour, as far as it is judged by the appetite it is found than an impaired state of the digestive functions, with irregular action, and generally

a sluggish condition of the bowels, are almost the certain consequences which follow a long series of Gouty attacks. Irritation of the urinary organs, and gravel, occur rather before and during the paroxysm, than in the interval. Gout has been too expressly defined an hereditary disease, by Dr Cullen and writers in general. In conformity with this character, the offspring of the gouty parent should seldom escape from having the disease; and still less, should we find, that in the list of its subjects, the examples of acquired gout, not hereditary, form the most numerous class. If it were true in all, as it is in most cases, that the habits of the sedentary and healthy are necessary to induce the gouty action, there should be no question, that it is only hereditary in predisposition; but in some the susceptibility to the disease is so great as to require no other stimuli for inducing the action, than such as seem absolutely necessary for the support of ordinary health. In gout therefore we must admit the two degrees of susceptibility, disposition and predisposition. Diseases either appear at birth, in which case they are called congenital or connate; or they arise afterwards. The first only can with propriety be called hereditary or family diseases; all others should be considered as hereditary or family susceptibilities to certain diseases. With respect to gout, we see in numerous instances, that the parents of one or more children, that when adult, have sooner or later become gouty, had not themselves the disease until many years after the birth of said child or children. The disease is not the less hereditary in the legitimate meaning of the term

because the susceptibility which is transmitted from the parent to the child, appears at an advanced period of life, instead of being connate, or instead of occurring before the age of puberty, and it seems that at this early period of growth, the actions of the system oppose its production.

The exemption of youth from gout, is a striking character of the disease. It appears that during the rapid growth of the body in the early years of life, that plethoric state of the system, which is connected with more or less of congestion in the system of the vena portarum, and upon which a first fit in particular so much depends, does not take place. It is true, that in youth there is an absence of many of the strong predisposing causes of the disease, but not to the extent of serving as a sufficient explanation of the point in question, the disease does not take place until many years after the full and continued operation of all the indiscretions and irregularities, which belong to the early life of the adult. It may with truth be affirmed, that the gouty, in general, possess good constitutions, abused by habits of indulgence; and hence the adage. Gout is the disease of those who will have it. A corpulent state of body usually precedes the invasion of the disease, and in many persons increases with its progress, but when its miseries are frequent and severe, loss of flesh, either partial or general, becomes a certain consequence; and this sometimes proceeds even to emaciation. On the temperament of Gouty persons Dr Cullen remarks, "If with the ancients we might ascertain, by certain terms, the temperament of men, I would say, that the gout attacks esp-

cially men of a choleric sanguine temperament, and that it very seldom attacks the purely sanguine or melancholic. It is however very difficult to treat this matter with precision. We should, however, aim at greater precision in our terms in relation to temperament, than is met with in the nomenclature even of the present day. The notions of the ancients on this point, together with their general opinions on disease, were so much obscured by the extreme doctrines of the humeral pathology, and so much blended with fiction and wild hypothesis, that in the practical language of the present day we must necessarily cease to employ their terms.

There are two kinds of temperament; the sanguineous, as designating that peculiar to persons in whom common inflammation is easily produced; and the nervous, as applying to those constitutions in which inflammatory action is excited with difficulty, but in which a morbid sensibility of nerve distinctly predominates; while the combination of the two, in different proportions, may be denoted by the expressions sanguineo-nervous, or nervous sanguineous. Gouty persons exhibit in the full and dilated state of their veins, strong marks of a stimulated circulation connected with weak vessels. Even in the acute state of the disease, they can employ powerful stimulants with the same degree of injury; or with the same certainty of producing it, as would follow in most kinds of inflammation. They are usually highly irritable and nervous, not only from being so rendered by the sufferings of the Gout, but for the most part,

from the influence of their original constitution.

The influence of the passions on the bodily health we know at all times to be powerful; but as far as respects the Gout, the depressing passions have the strongest effect. Grief and anxiety impair the healthy energy of the brain primarily, and affect the digestive functions, the circulation and secretion of the liver, and the actions of the intestinal canal, in a secondary manner, thereby, in a gouty diathesis, predisposing to the disease. Severe study, this cause comprising not only want of exercise, laziness and irregularity in the hours of rest and sleep, but also its consequences, weakness of stomach and inactive bowels, by its effects on the nervous system, from the over-action of the brain, produces that form of irritative debility, which increases the susceptibility of the frame to disease, and consequently to Gout, if such be the predisposition of the individual.

Animal food, when taken in excess of quantity, not only weakens the stomach by distention, but stimulates and oppresses the whole digestive process, beyond its healthy power. In the form of high-seasoned dishes, it proves a cause of morbid excitement, and induces such a false degree of appetite, that a quantity sufficient for several meals is often comprehended in one alone. An improper quantity of food in the twenty-four hours, however divided, serves very materially to lay the foundation of a plethoric state; but in order that the Gout may be excited, the use of fermented liquors must be superadded. Of the strong liquors, in relation to the Gout, wine, if in excess, is much the most injurious. The use of raw liquors are thought to destroy the

appetite, weaken the tone of the stomach in a permanent manner, and even lead to disease of structure; so that although an inflammatory condition of vessels is produced, the plethora ad molem is counteracted. Champaign, bad Claret, and new Port, will predispose to the Gout much more strongly, than equal or even larger quantities of Madeira and Sherry; because in addition, to their equal or greater heating effects, they give rise to more acidity; from which, the stomach and alimentary canal suffer certain irritation. Indolence is said to assist the predisposition to Gout; It promotes the tendency of full diet to produce plethora, by its restraining the various excreting functions, and also prevents that regular distribution, and due expenditure of the nervous energy, which the several secreting organs, and the healthy action of the brain, demand. It may be said to cause a morbid accumulation of nervous excitability. When we consider that that gout is truly a disease of repletion, it follows as a necessary consequence, that the over excitement of the stomach and chylopoietic functions, must lead to relative derangement and debility. In a first fit of gout, and sometimes also in subsequent attacks, there is no very sensible disturbance of the digestive organs; but it does not follow that they are really in a state of healthy action. An active appetite is often joined with an unhealthy state of stomach, and particularly with an unequal performance of functions below this organ, after the food has received its first change. The patient is often deceived into a belief, that

being professed of appetite, and apparent powers of stomach for the enjoyment and benefit of a hearty meal, his digestive organs cannot be in fault. But we must keep in view, that in the stomach itself, the important proof of digestion only begins. When the stomach is the most affected part, the marks of indigestion are felt in the most sensible manner, by the following symptoms: Heart burn, eructations which are sour, attended with a sense of heat, and often conveying the odour of yesterday's meal; a raving appetite, which does not become completely satisfied; oppression after a meal, with painful sense of distention, and soreness of the whole epigastric region. A furred tongue and clammy state of mouth, with viscid saliva, which is experienced especially first in the morning. In the Dyspepsia of gouty persons, both in consequence of their temperament and from the established influence of the gout on the nervous system, the severest state of hypochondriasis sometimes prevails. Under such circumstances, the connection of the functions of the brain with those of the digestive organs, is particularly exemplified; and a striking picture is seen of the reflected and natural influence, which prevails between the mind and the body, in disease. When that state of the system takes place, which introductory to the return of the disease, the bowels fail in their regular action; the secretion of the urine is variable in quantity and in appearance; the patient becomes sensible of enlargement in the abdomen, while the limbs sometimes are shrunk, and the muscles are soft, he complains of various

nervous feelings; and is occasionally troubled with night mare and with cramps. The bowels are frequently distended with indigestible food, and with the air which is generated in consequence; so that many unpleasant sensations are felt through the whole tract of the canal, which sometimes have the character of spasm. Flatus in the stomach and bowels is now and then the sole symptom of indigestion; a tenderness of the stomach to external pressure is sometimes exquisitely great, so that the most gentle examination can scarcely be borne. The hæmorrhoidal veins are sometimes painful; and a discharge of blood very often accompanies the gouty distress. The local abdominal symptoms vary according to the parts most affected. Should disease commence in the large intestines, as about the rectum, it disturbs the functions of the stomach and secretions of the liver, and becomes augmented in its turn by its sympathy with these parts. Should the liver be disordered in the first place, the stomach and bowels may not immediately sympathize, although they will probably soon become affected. Sometimes the patient describes his feelings of uneasiness to be exactly in the line of the duodenum, passing through also to the back in the opposite direction. The sensation is that of aching dull pain with occasional shooting, and of heat, which often amounts to burning. In other cases, the right or left hypochondrium is the seat of heavy dull pain, which is increased on pressure. This is very dependant in its degree on the state of the bowels and is mixed also with pain in the back and shoulder blade. It frequently happens, that the only part which

is tender or painful on pressure, is just at the ensiform cartilage. In association with a morbid state of the alimentary functions, this tenderness, especially if it be found when the stomach is not distended with food, is certainly indicative of a wrong condition of the liver. The sympathetic pains are sometimes more remote and anomalous, affecting the shoulder blades, shoulders, or even the arms, as with rheumatism; for which they are often mistaken. The pulsation in the epigastric region, which is sometimes felt to an alarming degree by dyspeptic persons, is seldom met with in persons subject to acute Gout. In Gout, an attentive observation of the changes and condition of the ~~urine~~ urine is an abundant source of information. The quantity which is secreted in the paroxysm is usually scanty, or, even when in natural proportion is much concentrated. A portion of that which is passed first in the morning, should be the particular example for medical observation & examination. The colour of the morbid urine is various and affected by different causes; but whether more or less deep, it is found under these circumstances much increased in specific gravity beyond the standard of health. Variable climate, may justly be considered as a predisposing cause of gout, and to this may be added, a residence in a situation which is cold and damp. Exciting causes — The sudden repletion, and inflammatory action of the general circulation, which extreme indulgence at the table, sometimes induce a fit, in the course of a few hours, where the predisposition strongly exists. It rarely fails to occur if the excess be often repeated.

The heating, exciting, and injurious quantities of Champaigne are much more remarkable than are found from any other liquor. If it has power to excite a first fit, we may easily imagine that it is occasionally the cause in producing the returns of the disease. Acidity, when much accumulated in the primæ viæ, will in connexion with other causes powerfully assist in exciting a fit, and will sometimes alone prove sufficient. During the paroxysm, if occurring in a considerable degree, it is said to be always a cause which produces much aggravation of the symptoms, when rejected from the stomach it is very acrid to the throat, which may be considered as a proof of its irritating power in the stomach. A jaundiced skin with general fever, pain in either hypochondrium, costive bowels, deep-coloured urine, sometimes occur as the short precursors of a paroxysm. Cold with or without wet, applied to the body generally, or to the lower extremities only, especially in connexion with fatigue, proves in an equal degree, exciting to the disease in an individual who is predisposed to it, as to the plethora in general; and it is by far the most frequent of the exciting causes. Of all the forms in which cold acts upon the body, a wet fog, with a penetrating east or north east wind is said to be the most injurious. Strains, bruises, bruising, or any mechanical ~~great~~ violence immediate or remote to the part which becomes affected with inflammation. Even a first fit is sometimes excited in this manner, and the patient imagines that he labours under a common strain only.

It is necessary, however, to the effect of local injury, that the constitutional disposition to an attack should exist. ~~to have~~ The pressure of too tight a shoe, and more especially if the patient walk much under such ~~pressure~~ irritation, will occasionally induce gouty inflammation. That fatigue, which is the joint offspring of mental and bodily exertion, is a very common cause of a fit.

Proximate cause - Some writers have contended that an excess of uric acid, or its elements in the system, is the proximate cause of Gout. This inference seems to have been deduced, from the occasional instances of the external uric formations: from the presence either of pink colouring sediment; or the reddish crystals so generally found to exist in the urine in connexion with the Gouty paroxysm; and further from the remark of Berthollet, "that paper coloured ~~red~~ blue by litmus, becomes red on being exposed to the perspiration of a part affected with the inflammation of Gout. In Gouty persons there is said to be always a redundancy of uric acid -

From Rheumatism, Gout is to be distinguished not so much by any one mark, as by the concurrence of several circumstances. In the first fit of Gout, it seldom happens, that more than one part is affected; and still more rarely, that more than one part is attacked at the same moment. This solitary disposition of Gout, as to its situation in the first attack, is a striking point of dissimilarity, to which may be added, the adult age. The remissions from pain, recurring the day, are much more distinct in acute Gout than in acute rheumatism; and among the local characters which are striking in Gout, the following may be selected: a serous effusion into the cellular

lar membrane, which takes place almost immediately after the invasion of the fit in the parts already enumerated, and which fits to the finger as the inflammation ceases, and in a slight degree even before this, when the skin is not extremely tense: a congested state of the neighbouring veins, more marked and general than in Rheumatism, sometimes appearing in the whole limb, and occasionally preceding the inflammation, a day or two or even longer; the severe intensity of pain, accompanied with extreme sense of heat, and violent throbbing; the acute sensibility of the parts to touch, with numbness and total disability.

From Erysipelas, the species Phlegmonodes, can alone baffle the discrimination of the practitioner; and this only happens when it affects parts also liable to the Gout. The inflammation in this complaint is more superficial than it Gout, affecting primarily different textures, and is usually more disposed to spread. It is ushered in by stronger constitutional symptoms, as drowsiness, headache, and severe rigors, if the attack be urgent, if it be slight the distinction may be deduced from the specific local characters. In erysipelas, the heat of the affected part resembles rather the stinging of nettles than the strong burnings of the Gout; nor is there in Erysipelas, the same disabled condition of the moving powers, as in Gout.

From Phlegmon or common inflammation, the diagnosis can never be rendered difficult; except in a first case of Gout; and even then, an attentive consideration of all the relative circumstances, constitutional and local, will remove ~~every~~ very doubt.

Prognosis - In a first fit of Gout especially, the favourable progress and termination of the symptoms are indicated almost solely by local appearances; and the count of first attacks is often so favourable, that the patient congratulates himself on the benefit which he has received or expects to receive. In the severe and complicated relevancy of the disease, it affords a very different prospect. The following are the favourable signs, the visceral organs being sound and not materially disturbed in their functions: an entire cessation of the sympathetic fever; the tongue becoming moist and clean; a return of natural appetite; the faces recovering a healthy character; the urine ceasing to deposit sediment; and at the same time losing its high specific gravity; the nervous system becoming tranquil; the local sensations readily yielding in their severity to remedies, and the inflammation soon abating, and not showing a disposition to quick transference from one part to another. The skin which has been affected, becoming pale and permanently cool, affords a favourable omen; and with regard to desquamation of the cuticle, when it does occur, it may be considered as a strong indication that the inflammation is wholly removed from that particular part. Among the unfavourable signs are - the quick transference of severe inflammation from one part to another, joined with painful sympathy of the stomach or the head; with irregular fever; and with exquisite sensibility of the whole nervous system.

Treatment – The treatment of Gout must be divided into that which is necessary during the paroxysms, – and that which should be resorted to during the intervals of the fits. To prevent a recurrence of the disease after a first attack, an abstemious course of digestible diet must be enjoined – and indulgence in wines and other liquors prohibited. Various remedies have been used with the view of precacting the paroxysm – but without effect. During the paroxysms the treatment must be antiphlogistic, according to the degree of excitement present unless the patient is of a phlogistic and inflammatory diathesis bleeding may in most cases be dispensed with. It is true the local affection is sometimes quickly removed by prompt and copious abstractions of blood – but metastasis to internal organs is often to occur. Cathartics are highly recommended in this disease, and no doubt prove highly beneficial by removing from the alimentary canal, the dark coloured, vitiated and irritating matters with which it is always more or less loaded. Sydenham recommends cathartics and diuretics conjointly as highly useful during the fit, he used a draught composed of Magnesia gr xx; Sulph Magnesia ℥ij; bin boleth ℥ij with sweetened water he also recommended pills made of Ext Colocynth comp ℥ß. Calomel gr xv, Tart Ant gr i. made into xvi. two or three to be taken at bed time. The bowels should be kept in a loose state during the paroxysm. Emetics are useful – when there is much acid – bile or other offensive matter in the stomach or when the disease makes its appearance immediately after a meal.

When we wish to keep up a gentle diaphoresis, we may employ a grain of Calomel with the same quantity of opium and one-tenth of a grain of tartar emetic every four or six hours - together with the infusion of elder flowers, or of Eupatorium perfoliatum. The diaphoretic mixture with Camphor has been used with excellent effect. Where there is extreme pain with much sympathetic febrile excitement Opium is an excellent remedy, The bowels should be freely evacuated before it is used one grain may be given every hour until the pain ceases, should this disagree with the stomach, the black drop may be substituted. A variety of remedies have been recommended in Gout - of which a few must only be mentioned. The Colchicum Autumnale is considered almost as a specific in this disease by some authors, whilst others object to its use, on account of its tendency (as they say) to leave the system more predisposed to the disease, and to lead to the still more calamitous, because still more constant, pains of the chronic form of the disease. That these objections (says Sydenham) are altogether unfounded, I am not disposed to affirm; but I think it highly probable, that much of the harm that has been ascribed to this remedy has arisen from the improper or inordinate use of it. Eberle recommends it to be given in doses of from 30 to 50 drops of the vinous tincture with 20 grains of magnesia. to be taken every six hours until it acts upon the bowels. When it produces unpleasant sensations in the stomach it must be discontinued. The Eau Medicinale as I have

said above was formerly considered almost a specific, but its ultimate consequences, are said to over balance its good effects. The tincture of white hellebore has been spoken of as being beneficial in this disease, but the relief it affords is only transient. Various local remedies have been resorted to in the treatment of this disease, but the greater number of them appear to be more injurious than beneficial. Leeching, blistering, nor the warm pediluvium appear to have the least power of removing the pain, or of increasing the resolution of the affected part. Leeching is said sometimes to increase the pain. The application of cold water to the inflamed part, is said to lessen the pain and inflammation, but it is objected to on account of its tendency to transfer the disease to internal organs. Sydenham recommends such remedies as are volatile and stimulating, a liniment compound of one part of alcohol and three of mixture Camphorata in a lukewarm state applied by means of linen folds. Flannel is sometimes beneficial where the extremities only are slightly affected, with a tendency to retrogression, but in no other instance. During convalescence, the patient should use a moderately nourishing diet, he should be very careful not to overload his stomach, with regular exercise, and the occasional use of mild laxatives. Should the biliary and digestive organs or functions remain in a disordered condition after an attack small doses of blue pill may be used at night followed by a purgative in the morning, and an infusion of Gentian or Columbo may be used frequently during the day. Stimulating liniments may be resor

ted to remove the swellings ~~of the~~ which occasionally remains, a flannel roller may also be used. The best prophylactic means that can be used are such as have a tendency to restore the healthy action of the skin, liver, and stomach; and the use of proper diet and exercise, abstinence from highseasoned & nourishing diet and all fermented liquors, wearing flannel next to the skin, the use of tonics &c. Sydenham recommends the ammoniated tincture of iron, commencing with 20 drops twice daily, gradually increasing the dose to 60 drops during the intervals.

In the chronic form of the disease - the chylopoietic system must be principally attended to. A light and digestible diet must be resorted to with the occasional use of a blue pill at night followed in the morning by a mild purgative. From one to two grains of Opium or 15 or 20 drops of the black drop may be taken at bedtime to relieve the pain and nervous irritation which the patient experiences during the night. Sydenham recommends Lactucarium and Stramonium in such cases. Opium and camphor are sometimes useful. Carbonate of ammonia with Ginger tea, and various remedies, such as Gum Guaiacum, Oil Terebinthine; Calamus aromaticus; and particularly the vegetable bitter tonics, aconitum, prunus padus; belladonna, mercurial remedies, mineral waters &c. When the inflammation removes to some internal organ, decisive means must be resorted to in order to remove the immediate danger. Where the disease attacks the stomach, heating and stimulating remedies should be resorted to. Warm spiced brandy with from 80 to 100 drops of Laudanum should be frequently given, and a mustard applied to the

stomach. Opium may be employed even when it assumes the form of Gastritis. When it is translated to the brain opiates and stimulants cannot be used - blood-letting in such cases is our principal remedy, in union with the mercurial cathartics, cold applications to the head, and sinapisms to the feet. In all cases stimulating applications to the feet are indicated, irritating purgatives enemata, as well as cupping and leeching over the affected part are of signal advantage.

It only remains for me to return my sincere thanks to the honourable faculty of Physic in the University of Maryland, for the untiring zeal they have manifested towards the class in endeavouring to instil into their minds the knowledge of a profession, which will insure success, and obtain for them a name among the great men of the profession, which neither malice, nor the corroding tooth of time will be able to destroy. That the University may always have as able Professors, as occupy her chairs at present, that she may soon acquire her former prosperity, which she is now rapidly attaining, that the present Faculty may continue to prosper, and be blessed with a long and happy life, and leave a name to be handed down to posterity, worthy of Professors of said Institution, shall ever be the good wishes of their humble servant.

An

Inaugural dissertation

on

Opium;

submitted to the examination

of the

Provost,

Regents,

and

Faculty of Physic

of the

University of Maryland:

for the degree of

Doctor of Medicine:

by

James, M. Stone

of

Somerset County,

Maryland.

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Opium.

Opium derives its name, according to some authors, from the greek word 'oros' signifying "juice", as this drug is the concrete juice of the Papaver somniferum. It is obtained by making longitudinal incisions in the capsules of the half grown plant, from which the juice exudes, is scraped off, and placed in suitable vessels, until from exposure to the sun, it obtains proper consistence, when it is moulded in cakes, &c. and sent into our markets.
The juice when it first flows out is of a light color, but becomes dark on exposure to the air. Good Opium is uniform in its color, which is a deep brown, as well as in its consistence; it should not leave a dark trace when drawn over paper nor impart a deep brown color to the saliva when chewed, and should possess its peculiar bitter opiate taste and narcotic odour. When in a state of powder, in summer, it is apt to agglutinate ~~if exposed~~

if exposed to the air. It is partially soluble in water, alcohol, Ether, wine, vinegar, and lemon juice. Chemical analysis has proven that it consists of Narcotine, Morphia, Codeia, Narcein, Meconic acid, Meconin, extractive-matter, mucilage, fecula, resin, a fixed oil, a substance resembling Caoutchouc, a vegeto-animal matter, an odorous principle, sulphate of lime and potassa and alumina.

Having taken this necessarily short and imperfect glance at the character of the substance, of whose medical properties and uses, it is our duty more particularly to speak, we will now proceed to the consideration of its general effects upon the system, after which, a few remarks upon the diseases to which it is applicable, and the various forms in which it is administered will bring us to the close of our subject. Opium is a stimulant narcotic, and its effects vary greatly according to the dose in which it is given. When taken in small

of injurious to the eye. It is particularly useful in bathing, Liquid, pitch, tong, frying, and lemonade. It removes quickly the pain that is the consequence of burns, scalds, bruises, contusions, sprains, insects stings, frost bites, sunburn, chapped lips, &c. In short, a general and a substance possessing healing properties, a superior removal medicine, an advanced preparation, adaptable of time and circumstances.

Having taken this mediation by short and impartial glance at the character of the usefulness of which medicinal preparation and used it is our duty more particularly to speak, we will now proceed to the consideration of its general effects upon the system, after which we will mention its distinctive which it is applicable, and the manner which it is administered, which it is administered with best results being and to the choice of our readers. Opium is a stimulant narcotic, and its effects vary greatly according to the dose in which it is given. When taken in small

or moderate quantities, it excites the sanguiferous vessels, infuses new energy into the muscular system and more especially stimulates the brain, so as sometimes to produce intoxication bordering on delirium of an unpleasant character. But more generally its effects are pleasant, animating the spirits, calling into play the dormant powers of imagination and awakening the most brilliant exertions of fancy. After a time, longer or shorter according to the amount used and the impressibility of the individual's system, this excitation subsides and is succeeded by torpor of the corporeal powers and a delightful placidity of the mind. Now a thousand wandering fancies flit in sweet, though swift, succession through the brain, no worldly care or anxiety disturbs the Turkish debauchee's complacency, and in the course of an hour he gradually loses all consciousness in sleep. As might be inferred from the preceding sentence it is this stage of transition from the stimulant to the sedative action of opium that constitutes the chief charm, in the operation of this drug,

and causes it to be sought for by the Mahomedan inebriate, as the summit of earthly pleasures. After from six to ten hours the hypnotic effect ceases, and is commonly followed by a train of unpleasant symptoms, among which may be mentioned nausea, headache, tremors, and great irritability of the nervous system. The other effects produced by this medicine are a suppression or diminution of all the secretions, except that of perspiration, the suspension of the peristaltic motions of the bowels, and the soothing of pain and inordinate muscular contraction. Should it happen from imprudence or by accident that the surface of the body be exposed to the cool air, perspiration will be prevented and the action of the remedy will in all probability be determined to the kidneys inducing a copious secretion of urine. An occasional effect of this drug is the production of a disagreeable itching or sense of pricking in the skin, sometimes accompanied by a species of miliary eruption. In large doses the period of excitation may be so short as to be scarcely perceptible, and alarming

symptoms often present themselves; the pulse becomes slow and full; the breathing laboured and stertorous; coma; convulsions; and, when these are present, death generally follows. - In some persons the smallest quantity of this article produces so many unpleasant effects as to cause them often to refuse to take it; even when assured that nothing else can relieve them. I know one person who from this unfortunate idiosyncrasy (a term used to express a fact without however accounting for it,) was unable to take the smallest quantity of this drug in any of its forms without its exciting a fit of temporary mania and consequent dull heavy pain in his head. While some thus readily respond to the stimulus of ~~light~~ a very minute dose, others may swallow enormous quantities without any very appreciable result. Witness the opium eaters of the East; aye, and coming a little nearer home some of the fair sex of our own clime, who are listless and almost lifeless, merely vegetating, not living, unless their spirits are exhilarated by the juice of the somniferous poppy, and who day

after day make use of almost incredible quantities of this substance. From this fact we obtain valuable knowledge to guide us in the treatment of disease, viz. when ~~[illegible]~~ we use this medicine for any length of time we must gradually increase the dose to maintain an uniform effect. Pain is an important agent in modifying the action of opium, and the immense quantities which may be taken, in some affections of a neuralgic character, or more particularly in morbid irritability of the bowels, not only with impunity, but with unquestionable benefit might well cause some ignoramus to impeach the veracity of one who speaks of giving doses of from 500 to 1000 drops of laudanum in severe attacks of Cholera Morbus.—

The constitutional effects of Opium, may be produced by giving it by the mouth, applying it to a surface denuded of its cuticle, or through the rectum. The dose requisite to produce a given effect in the last must be treble of that given in the first way; although this does not coincide with the opinion of many French physicians who assert that with three times the dose through the rectum, a much greater

effect is produced than when the usual quantity is administered by the mouth. Opium applied locally to a part at first slightly stimulates the vessels, but soon diminishes its sensibility and contractility. Opium is then employed either with a view to its excitant, sedative, or diaphoretic ~~effect~~ action, and the dose varies according to the indications designed to be fulfilled. It is the sedative effect that is most frequently called into play, by the practitioner, to produce sleep, relieve pain, remove spasm, allay ~~xxxx~~ irritation, both local and general and suppress morbid discharges. If this article possessed no other than its anodyne power, it would be worthy of great attention, but in addition to this, when we consider the different other virtues which it has, we must agree with Meade that it is the "Magnum donum dei." We will now dismiss with a single remark this portion of our subject, viz: whenever it may be our lot to have used this medicine for a long period, and the necessity for its administration should no longer exist, we must be careful not to too severely shock the nervous system by the sudden withdrawal of the accustomed stimulus without at the same time guarding

against depression by some other excitant. A few words upon the advantages of the salts of Morphia over the crude opium, and then for the particular diseases in which this medicine is used. Chemical researches have proven that Morphia is the constituent of opium to which this drug is mainly indebted for its anodyne and sedative powers, We may enumerate the following as the points wherein this salt excels the substance from which it is obtained, viz: it does not stimulate to the same degree; nor constipate the bowels nor is its use so frequently followed by headache, nausea, or tremors. In fact wherever our object is merely to allay pain, procure sleep or soothe nervous irritation Morphia is preferable; but for the suppression of morbid discharges and as stimulants in typhoid forms of fever there can be no doubt of the superior excellence of opium. The salts of this principle are more especially adapted for application to blistered surfaces, and when thus applied they seldom fail to produce their proper effects.- When Opiates are given with a view to their sopporific action we should always attend to the rule laid down by Dr Graves,

and which common sense would sanction even were it not supported by the authority of so great a name, that is, we must always give our opiate an hour or two before the time at which our patient is accustomed to go to sleep. Another general direction given by the same author is by no means unimportant, which is, whenever there is sleeplessness towards the close of an acute disease, always to continue the opiate for several nights after this is overcome.

We shall now consider the employment of this article of the Materia Medica in fevers and first those termed continued.

Here whenever there is present a high grade of inflammation the use of this article is contraindicated, although even under these circumstances, some declare that small quantities in combination with nitre, pulvis antimonialis, or ippecacuanha will act beneficially by producing gentle diaphoresis; but, if the inflammation be excessive it is seldom that these articles will produce other than partial and inefficient sweats, the utility of which is more than counter-

and orderly Government. Such would therefore even were it not supported by the authority of so great a Name, that is, we should always give our opinion as have on time before the time at which our Parliament is accustomed to go to sleep. Hereafter general directions given by the same authority to lay the General Survey for Land, satisfied, whenever there is sufficient reason, on some clear ground of convenience, or public advantage to continue the opinion for general rule of this is seen some the shall more consider the employment of this article of the Constitution Bretzer in future and point there be mend Continued.

After when ever taken is pressed a high price of inflammation the use of this article is certain - in obscured, although even in the time con - firmed, some cheaper that overall pen - ition in Combination with Pitts, Pulsing Sat - Provinces, or Infusions is will not have - fically by producing pain the disease, but if the inflammation is excessive it is believe that these articles will produce other than partial not sufficient cases, the activity of which is more than Common

balanced by the injury which is caused by the stimulating qualities of the drug. It is in the more advanced stage of fever when febrile excitement gives place to weakness, and the various symptoms of nervous irritation that the use of this preparation is demanded. For instance when there is delirium not dependant upon cerebral vascular action, or where the patient is restless and sleepless, its effects are delightful in calling into exercise the proper functions of the brain or in soothing its morbid irritability. In the typhoid stage of continued fever and in true typhus, Opium is given with a view to its stimulating effects, its sedative action being guarded against by the smallness of the dose and the frequency of its repetition. The more preferable form for this purpose is the Tinctura Opii in quantities of from 15 to 20 drops repeated as often as may be necessary. This preparation is stimulating as well from the spirits which it contains as the Opium itself: and may be advantageously employed whenever a sudden impression is desirable.

hemorrhage by the injury which is caused by the stimulating qualities of the drug. It is in the more advanced stage of fever when patients are frequently place in wretched, and the serious symptoms of nervous irritation that the use of this preparation is observed. Its influence often takes on delirium and dependent upon cerebral congestion or when the patient is restless and sleepless, it effects one delightful in calling into exercise the further functions of the brain or in soothing its morbid irritability. In the typhoid stage of continued fever and in true typhus, opium is given with a view to its stimulating effects, its sedative action being generally against by the combination of the drug and the frequency of its repetition. The more favorable form for this purpose is the tincture opii in quantities of from 10 to 30 drops to repeated as often as may be necessary. This preparation is stimulating as well from the opinion which it contains as the opium itself: and may be advantageously employed whenever a sudden impression is desirable.

Opium is frequently given to check vomiting or allay gastric ~~irritation~~ irritability whenever they occur in fever. In intermittents given in one or two grain doses an hour or more before the ~~paroxysm~~ accession of the paroxysm it is said to check their recurrence. In the form of Dovers powder or even alone it very much assists the quinine in breaking up the morbid chain.

By Lind it is spoken of in high terms when given in the hot stage. In virtue of his experience he declares that it alleviates the burning heat, hastens the accession of the sweating, and frequently produces a calm, refreshing sleep. This plan however cannot be pursued without great danger of producing ill effects in persons of a plethoric habit, although it may answer very well for those of a debilitated constitution. In pneumonia it would be the height of absurdity to prescribe this article, before the arterial excitement had been moderated by previous venesection or other antiphlogistic measures. But after the use of these remedial agents, when cough, remains

without fever, proving a source of great uneasiness and protracted sleeplessness to the patient, its employment is imperiously demanded. Even in such cases it is much better to temper its action by continuing with it ipecacuanha, the tartarized antimony or some other remedy of the same class.

In Catarrh the administration of Opium alone or in the form of Dovers powder, when given prior to the full establishment of the disease often has a very beneficial effect in arresting it. In Cases of severe acute bronchitis great caution is requisite in its use even when so combined as to act as a diaphoretic; but when this affection assumes a typhoid character, or passes into the chronic form, there is nothing which affords a better prospect of relief than Opium combined with some stimulating expectorant. In Pleuritis, when the pulse does not justify the abstraction of blood this drug may be very advantageously employed. In typhoid cases of pleurisy as in all other diseases of a low form, opium is not contra-indicated.

In the suppurative stage of Variola it has been recommended to allay irritation and sustain the constitution during the contest of that formidable malady. In ~~the~~ rubeola when the edge of the inflammation has been taken off by proper depletion, and no great pectoral affection remains, we may give it to allay the patients cough and promote gentle diaphoresis.

In Scarlatina its use does not appear to meet with much approbation. In cases of hæmoptysis induced by severe and often recurring fits of coughing, we are justified in using Opium, but when these are otherwise occasioned, we are not. In Erysipelas the watery solution of Opium is very serviceable in allaying the pain, and reducing the excessive ~~[illegible]~~ heat of the surface. The same remark may be applied to cases of bruises and strains especially when united with the acetate of Lead, or applied in the form of the anodyne volatile liniment, composed of the aqua ammonia, oleum olivæ,

In the inflammatory stage of bronchitis it has been recommended to allow venesection and sudorific the constitutions during the continuance of that formidable malady. In the bronchitis where the edge of the inflammation has been taken off by proper depletion, and no great bronchial affection remained, we may give it to allay the patient's cough and promote expectoration.

In fever in time it is the chief point appears to meet with much opposition. In cases of hemorrhagic inclined by severe and effective giving effect of bringing, we are justified in giving opium, but when there are otherwise secondary we are not. In phthisis the giving solution of opium is very serviceable in allaying the pain and reducing the excessive secretion of the lungs. The same remark may be applied to cases of insanity and attended extremely when combined with the delirium of lead or syphilis. In fever of the anomalous or atypical kind, complicated by the signs of inflammation, opium then

and tinctura Opii.
In cholera morbus opium is so extremely effec-
-tive as almost to acquire for itself the rep-
-utation of being a specific for this trouble-
some affection. In Dysentery, ~~by some~~, after the
bowels have been gently but thoroughly evacuated,
opium exerts a happy influence not only
in checking the disease, but more directly
by soothing the distressing tormina and tenesmus
attendant upon it.
In Diarrhœa, unaccompanied by phlogosis,
opium alone, or which is much better in union
with some cretaceous preparation or astringent
article produces unquestionable beneficial
effects.
In cholic, if bilious, qualify the narcotic with
calomel; if flatulent, add some one of
the carminatives. An important fact not
mentioned in my enumeration of the
general effects of this drug which should
not be neglected is, that whenever there is
present spasm in the intestinal canal,
instead of constipating the bowels, as is its

and demoralizing effect.

The cholera therefore which is so extremely effective and alarming is regarded for clearly the recreation of having a opportunity for this terrible same effective. In Bengal for years after the church has been partly at a therapeutically unknown cholera great a daughter influence notorously in checking the disease, but more directly by controlling the diarrhoea and consequent debilitant fever etc.

The Bramhans, are recommended by allopathic physicians where, in which is moved better or unless the more predominant inflammation or rationing part which practical medication and beneficial effects.

The Chelis, if believed, practically the measures with Calomel; if flatulent, add camphor or the Bramhanetics. The important factor mentioned in my enumeration of the general effects of this drug which should not be overlooked is that unknown there is treatment effects in the medical Council instead of constituting the church as a

action on a healthy person, by relieving this morbid state; it facilitates the operation of Cathartics. Hence is laudanum often added to Castor oil to prevent its griping effects - which would be apt to interfere with its proper purgative action. In all gastric and intestinal affections after these viscera have been unloaded either by mild lavatives or enemeta, and after the reduction of vascular excitement by the lancet or leeches nothing is better than full doses of Opium Combined with a few grains of Calomel. Immense quantities have been taken to relieve the pain caused by the passage of a Calculus through the ductus Communis Choledocus or along the ureter; and in these instances it would seem to act by virtue both of its antispasmodic and anodyne powers. Uterine hæmorrhages has been arrested by the internal use of Opium and the acetate of lead aided by appropriate local measures.

In Chronic Rheumatism or the Cases of acute where the inflammation has to some degree

action on a healthy person by reducing the
morbid state, it produces the opposite of
Gelsemium. Hence is Gelsemium often a valuable
to Belladonna and to produce opposing effects.
which would be apt to interfere with its proper
therapeutic action. In all cases and particularly
affections of this nature have been con-
tended with the most favorable or prompt
and after the administration of medicine appli-
cated by the lancet or leeches matching is
better than a few drops of Opium combined
with a few pellets of Gelsemium.
Gentlemen there have been times to relieve the pain
caused by the passage of a Gallstone through
the ductus communis choledochus or along the
ureter, and in this instance it would seem
to act by raising the tone of the sympathetic
and nervous system. Various remedies
have been suggested by the internal use of
Opium and the results of bad results by
administrating local measures.
The Opium Gelsemium or the Cases of a cuti-
tous the inflammation has been stopped

been arrested by venesection, &c, in the form of Dovers powder or in connection with the Gum Guaicum, Colchicum, or the phytolacca decandria, it will not often disappoint our expectations. In Gout when it attacks the stomach or some other vital organ the spasms must be relieved by opiates; but in the regular form of this disease their employment, is to say the least, precarious.

In tetanus great quantities have been given, and although it frequently fails, yet it is our best remedy for that dreadful disease. In Epilepsy, where nervous irritation preponderates over vascular excitement, it is soothing and is said to be very efficacious. Cullen states that in several cases where the aura epileptica was present as the forerunner of the disease, he has seen the attack prevented by a dose of Opium. Its powers in Chorea are ~~also spoken~~ favorably spoken of by the same author. In all spasmodic nervous affections, including under this head, palpitations of the heart; asthma; whooping cough; Angina pectoris;

been conceded by recognized writers, on the form of Spasmodic Dysmenorrhœa with the Sensations, Gastralgia, or the Epileptiform Convulsions, will not affect disappointed our expectations. In most cases it affects the stomach or some other vital organ the spasms must be relieved by opiates; but in the regular form of this disease this exciting cause is only the least frequent.

The internal remedy quantities have been given, and although it frequently fails, yet it is our best remedy for that distressful disease. The epileptiform, when recurring irregularly, it is worth being made point to be more efficacious. To the stories that is received could when the spasmodic uses as the forerunner of the disease. It has been the author's invariably a close of phenomena. It happens in females as a direct frequently the effect of by the disease. In all spasmodic affections, including under this head, hysterics, of the hysteric sufferers, whatever being cause, imposing factors

when there is no organic lesion, and no evidence of serious implication of the sanguiferous vessels, we need have no hesitation in recommending this medicine. In all Neuralgia, as Tic dolorous, odontalgia, otalgia, &c. this is the sheet anchor of our hopes. Where the nerve which is the seat of pain is superficial it has been recommended to apply the Morphia endermically or by inoculation. The same plan has been persued with temporary relief in Rheumatism and gout. In Cancer and the Medullary Sarcoma deprive the patient of his narcotic and you render life insupportable. The tinctura Opii has been recommended as a collyrium in Conjunctivitis. It is also frequently employed in this form or in a powdered state as an adjunct to the common bread and milk poultice to which it imparts anodyne powers. It is a favorite ingredient in the balsamic preparations of imprudent or unfortunate young men; and is also much used by them in combination with Camphor to prevent or allay

when there is no organic lesion, and no evidence of serious implication of the sympathetic nervous, we need have no hesitation in recommending this medicine. In all functional, as the dysmenorrhœa, menstalgia, neuralgia, etc. in the debilitated state of our ladies. Where the nervous system is the seat of pain, it satisfactorily has been recommended to affect the muscles mechanically or by irritation. The nervous system has been pictured with temporary relief in rheumatism and gout. In cases resembling the paralytic diseases depending the patient of the muscle and yet under life indefinitely. The American Physic has been recommended as a cathartic in constipation. It is also frequently employed in this form as a warmed cloth as an adjunct to the common tried and milk poultice which it perhaps surpasses. It is a favorite practitioner in the laborious performance of instructions in unfortunate lying cases, and is also much used by them in combination with Cornfoot to prevent or allay

the distress occasioned by chordee.
In mania except they be of a very low grade it may be dispensed with; and its indiscriminate employment in this malady has doubtless been a ~~source~~ fruitful source of injury. In hydrophobia, it is useless, nor better, nor worse than any other medicine. Having thus disposed of the therapeutical application of opium, we will now proceed to say a few words on its toxicological properties. When ~~in~~ an overdose has been taken we notice first a diminution of the frequency of the pulse; drowsiness; then succeed stertorous breathing, suffusion of the face, loss of sensibility to external impression and even to the most powerful irritating agents. After a few hours the scene changes, the patient has a small threadlike, scarcely perceptible pulse; cool skin and extremities; pale countenance; stupor; relaxation of the muscles; pupils immoveable no longer responding to the stimulus of ~~light~~ the most intense light; respiration is slow and gasping; and soon after death supervenes. As soon as we are called to a patient

who has designedly or accidentally taken an overdose of Opium our first endeavours must be directed to emptying the stomach; by means of the stomach pump if one be at hand; otherwise by the sulphates of Copper or Zinc, the tartar emetic, or ipecacuanha facilitating their operation, by tickling the fauces with a feather, and dashing cold water over the neck and shoulders. In some cases artificial respiration is said to be attended by favorable results. Sometimes the patient after the supervention of insensibility, and the failure of the cold douche and other remedies, has been actually flogged to life.- It would be needless for me to speak here of the deleterious influence of the habitual use of Opium; I cannot but refer to the despotic governments of the Sultan of Turkey to show how deadening is its action; here it checks every manly aspiration and quenches all love for liberty. Give the Turk his soul debasing drug, and he is content to recline in inglorious ease careless who reigns, or what new law tyranny enforces, so it interferes not with his beloved drug-. Truly may it be said that Opium forges for him the base and ignominious chains he wears, a slavery ten times worse than African bondage.

From this account of Opium, we see to what a vast number of diseases it is applicable; and on the other hand its too liberal or improper use may give rise to much injury. In truth may we say that Opium as it is used or abused is in the hands of the physician a powerful instrument for weal or woe. With these remarks I conclude my subject, by respectfully submitting this my Thesis to the Faculty of Physic of the University of Maryland..

An Inaugural Dissertation on Bloodletting

Submitted to the examination of the Provost, Regents and the Faculty of Physic of the University of Maryland

By

Edward Hagerty of Baltimore Md.

on his application for the degree of Doctor of Medicine

In February 1843

Gentlemen When we reflect on the numberless medicines, with which the Materia Medica are filled, these divided into groups, the application of each in the various stats of disease; we justly consider these to be the most important, which may belong to the greatest number of these groups; that is a medicine, which may be a sedative, emetic, or diaphoretic, we consider of more importance than any other which would belong to any one of these. Reasoning in this manner, we must arrive at the conclusion, that Blood-letting is the most important agent in the treatment of disease; whether we consider the number of diseases in which it is employed, the indirect therapeutic effects which it is capable of producing; or the safety, or suddenness of its effects; We must also take into consideration, that when we are applying remedial agents, the system is in a state of disease, and that we scarce ever have disease, in which the

Stomach does not strongly sympathise; but in the administration of this remedy, we do not introduce any irritating or foreign substance to which it is unaccustomed, to give us trouble afterwards, for it is generally found that when the stomach gets stubborn our means of restoration are very limited, Although the blood is the fluid which builds up the decays, which are every where going on in the system, and that this fluid is elaborated by the digestive functions, and that in disease the elaboration of this fluid ceases; it seems a little singular, that this should be the time chosen for its abstraction; but is no doubt a wise provision of the wise author of nature, that in disease, this fluid should be diminished, so that when we use the lancet, we are only assisting nature in the restorative process, which she is adopting, we abstract in a moment, a quantity which would require her a long time to eliminate; and thus often save the organs which are morbidly involved in disease, altogether

from the consequences, which may follow, by involving the whole system in disease; or by bringing on other diseases more fatal, than the original; thus (in the language of scripture) making the last state of the man worse than the first. A disease at this moment occurs to me which in its consequences often illustrate this, that is intermitting fever. We generally find the individuals subject to this disease, living near streams or bodies of water, where there is in the summer season a high range of temperature, and consequently a great deposite of dew in the night, by the condensation of the water evaporated during the day, & that the changes of temperature are more sudden near water, than at other places; hence during the forming stage of the disease, they are often affected with a chilliness, to which they pay no attention, untill the disease is fully established; and then instead of bleeding, they are treated by bark & other stimulants: Yet be in the fall, the disease perhaps is stopt, lies dormant during winter, to reappear

in the Spring; which may again be prevented and then follows the consequences, the liver, Spleen, or other organs are in an organic state of disease; their secretions are changed, dropsy follows, with its fatal consequences, now dropsy I believe is curable in case of functional disorder of any of these viscera, but if the cause has continued long enough to cause organic disease, the case is desperate. I would for my part, as far as Judgement would dictate, bleed freely in the beginning of this disease, in the apoxia before I would administer any medicines, and by this means, try to prevent some of its fatal consequences; the same rule applies not to measles whooping cough or Scarlatina, As to bleeding in Typhus fever this is a subject on which great varieties of opinion exists some recommending so others disapproving of it even our late and lamented venerable Professor was not very much in favour of the practice when it could be safely avoided on account of the debilitating nature of the disease now as this is a disease which

gave a shock to my constitution, from the effects of which I never have recovered, that is I am not as strong as I believe I would have been; If I had not the disease, that it was genuine typhus, I have not the least doubt, as it is defined by doctor Eberle, both in the forming stage and the succeeding symptoms, as well as I can recollect. Now as to the treatment which I received in the forming stage, just able to go about, I felt languid & lost my appetite for food, & what was still more singular a relish for liquor which never forsook me before; however being unwell I thought of bleeding, went to the doctors, got bled & fainted a considerable time, came home, continued to grow weaker with delirium & severe pain in my head, when asleep, got so weak that I took my bed, to which I was confined for 6 weeks, during the early stage delirium was almost constant, was bled by the same physician again, same night bandage came of my arm, bled some more before it was observed, and was cupped besides so, that I must have lost

a considerable quantity of blood, and yet recovered from its effects; now in this disease from which I recovered and in which every other method had been tried to allay the cerebral disturbance in vain, untill blood letting was performed; I think it is not an unjust inference, to conclude, that it was the means of prolonging my life; by preventing those complications, which often occur in the course of this disease; and produce fatal results. I would therefore, if I was treating a case of this disease, where the cerebral disturbance was very conspicuous, have no hesitation in bleeding, but always taking as little as I possibly could, to attain the desired effect; recollecting that it is a disease, which in its course tends to prostration; and that it is doubtful, whether its duration is shortened, by any means with which we are acquainted; There is one fact which it would be of great importance with which we should be acquainted and that is whether those who are bled generally and freely after death, present on dissection the same pathological changes, as those who

who have not been bled, we then could form a more rational treatment; for if it is the complications, which appear in the course of the disease which causes death; we could then know whether those who were bled presented the same appearance; for if Bleeding should prevent these secondary consequences, it would be better to use this manner of treatment, even at the risk of the patients strength, than to leave him liable to those consequences, in which it is very doubtful, if even any recover, who have been subjected to them, I suppose that these things are known, but from my limited reading, and inexperience, am not aware of it. But if we turn our attention to those acute inflamatory diseases which run their course to convalescence or death as the case may be in a short period we find if it was not for Bloodletting all medicine would be of little avail that we would be as if our hands were tied that after a sufficient venesection we could by its relaxing properties introduce our medicines into the system

when they would be more likely to produce the desired effect, than if they were introduced when the system was in a state of agitation, by the momentum of the circulation, or those disturbed states, in which experience has shown that medicines will not act, as they would after bleeding, as a general rule it is agreed by all that all inflamatory diseases must be broken down by the lancet, when that has been accomplished, nature is competent of performing the cure in many cases unaided by art, or any other remedies whatever But as diseases are generally divided into groups, either from the similarity of their pathology or their relative situations in respect to each other, according to the different views of writers thus we have a group of the diseases of the alimentary canal and its accessory organs such as Glossitis tonsilitis Gastritis Enteritis Peritonitis Hepatitis Splenitis Now these several acute diseases are so nearly allied to each other respecting the treatment that so

far as bloodletting is concerned they are nearly similar some requiring it to be carried to a greater, before their violence is overcome than others, but none in which it would be considered safe to omit it, in preference to any other treatment for it is not to be denied that some of these diseases may be cured without it, yet as in the commencement of a disease we cannot always foretell to what length it may go we should always preserve the system from the injurious consequences of these acute diseases in time & we shall find the danger less afterwards for when it has gone on uncontrolled it may have ingrained so fately that the time for active treatment is passed by and that this remedy on which our reliance should always be placed if we wish to stop its ravages would now be too late The state of the pulse in some of these diseases might if we took no other signs be a source of error as I saw not long since A case of acute gastritis in which the pulse was

Slow not perhaps more than 45 strokes in a minute and if I had overlooked the other symptoms which showed themselves I should not have discovered the imperative necessity there was for bleeding there were the burning pain in the region of the stomach with vomiting ceasing for a short time after cool drinks with constipation of the bowels which had continued from the onset of the disease which at that time had lasted nearly 24 hours but the patient being bled and attended with ice in a few days got well The same observation is necessary in acute peritonitis as the pulse is rarely round and full being generally contracted and sharp with constipation and when we know the danger of these two diseases we should be continually on our guard against these errors which might lead even to the neglect of the means of treatment upon which we can rely Another source of error is sometimes committed in Hepatitis which has continued for a long time when a calculus exists in the liver

The state of the pulse indicate bleeding but if it be performed we shall find its hardness continue and that bleeding has very little effect over it. As the effect of Blood-letting in diseases of the respiratory organs such as Pleurisy Peripneumonia Laryngitis Tracheitis & Bronchitis there has not been much difference of opinion the latter only requiring great caution so as not to increase the great irritation which attend this disease sometimes after the abstraction of blood but the peculiarity of the pulse in peripneumonia must not be forgotten as in violent attacks it is sometimes small frequent and oppressed and but slightly tense from the begining but becomes fuller after blood has been taken contrary to what takes place in Pleurisy.

Although bloodletting is the most important means which can be employed in the treatment of diseases yet similar to all other powerful agents if it should be employed without consideration or reflection in some stages of disease

the effects it would produce would be very lamentable and capable of sending the individual out of this life sooner than he otherwise would and by this means bring this agent unjustly into disrepute not on account of the intrinsic value of the remedy but of the time & state of the patient at the time it was exhibited,

The greater part of the foregoing reasoning (if it is worthy of being called such) is applied in a general manner to the application of the diseases named without some of the considerations being mentioned which should never be overlooked when we are about to apply this remedy or conjecture that it may be necessary we should enquire of the patient what kind of health he has heretofore enjoyed the state of his mind whether he be of a lively or morose disposition whether he is of a nervous or sluggish temperament whether his family are subject to any peculiar diseases & take into consideration the constitution of the patient as he appears to us taken in connexion with these things as also

every thing else which may tend to throw light on his disease the length of time he was subject to it before we saw him & what symptoms or feelings he observed first when he became unwell. If the foregoing are well attended to we shall be able to arrive at a tolerable accurate conclusion as to whether bloodletting is indicated or not & as in hereditary diseases such as Scrofula or a predisposition to Phythis may be evident or the constitution may be injured by a loose life or exposure, if any of these symptoms are present we shall consider the disease whatever it may be more dangerous than if the same appeared in a robust constitution because we cannot apply our remedy to the same extent, as bleeding in a scrofulous individual has not the same effects as in those of sound constitutions it being so closely allied to Phythis often ending in it & if we were to bleed in such cases we only would hasten the death of the patient as any treatment which debilitates him tends to the deposition of of tuberculous matter the sequela of which is well known these considerations might be continued to an inordinate length and

yet be incomplete for this is a subject on which volumes might be written with advantage and still be inexhaustible it was not these considerations which induced me to take up this subject for my thesis but upon the reason that it is a practical subject for no sooner does an individual go out into the world to practise medicine & be taken into the presence of disease that he would or as I consider should ask himself is it necessary to bleed in this case if he is able to decide this question correctly, he will, there is not the least doubt, be a successful practitioner, if not the reverse is the case, and those who are unfortunate enough to be under his guidance are rather unfortunately placed, and the only solace which he has it in his power to use in this case is to get the confidence of his patients, make them believe he understands their diseases and from what we know of the influence of the mind in influencing diseases will tend to their advantage but as far as my observation has gone these means are very seldom neglected by any of the profession

I might go on to enumerate many of the cases or situations when Bleeding is or is not as I would consider indicated but as diseases like to the countenances of individuals subject to them, seldom appearing alike in any two persons in respect to violence and as many other considerations are to be taken into account which may modify our opinion in respect to the plan of treatment which we might think it best to pursue, and that after all the explanations which could be given in one particular case could not be applied to another in the same disease, the treatment depending on the opinion of the physician who is watching over the case upon whose sagacity & observation the success of the treatment entirely depends and to whom judgement it must finally be left Gentlemen I must confess my inability to be able to do justice to this subject important as I consider it to be to every one who ever intends to practise medicine his first thoughts should be turned to this subject, untill he could as far as practible form a theory ~~th~~

which practice should confirm he then would be proposed of one of the first principles of medical science the application of which would tend to throw light on some of the other subjects which is important to ascertain in the investigation of disease and by these means have a just confidence in himself without which it is impossible to be a successful physician Any one observing the number of theories which we have even at the present day for explaining the phenomena of diseases with the operations of remedial agents must at once see the mystery which surrounds the investigation requiring the assumption of so many facts which we are unable to prove confirming the expression that man is a mystery to himself, as to be able to throw any light on any of these subjects by the aid of ingenious reasoning or accidental conjecture is what I have not attempted to try, speculative theory further than what is confirmed by observation & practice has not engaged my attention my means of reading and experience have for many reasons been

very limited I have always endeavoured as far as I could collect some of the first principles which had been ascertained to be true by experience and which had been agreed to be facts without troubling myself of deciding what theory explaining them was right or wrong and these things considered will explain the imperfect manner in which I have performed this thesis as the limited time I was master of was employed in collecting facts many of these was taught to me at the college I went there for the purpose of learning them I intend to follow this belief by practising in accordance with them untill observation or experience should otherwise decide actuated by these and other considerations this is submitted to you gentlemen for your decision hoping it will in consequence of some of the above considerations be acceptable on the other hand should it when weighed be found wanting be a source of regret to your obedient servant

Edward Hagerty

An
Inaugural Dissertation,
on
Pneumonia Biliosa.
Submitted to the Provost, Regents, and
Faculty of Physic,
of the
University of Maryland.
for the
Degree of Doctor of Medicine.
by
Richard Lawrence Jr.
of
Baltimore City,
and
State of Maryland.

{1843.}

This thesis, is dedicated to the
Medical Faculty, of the
University of Maryland.
by
Richd. Lawrence Jr.

Baltimore. Md.
February 21st 1843

Pneumonia Biliosa.

In this disease, symptoms of pneumonic inflammation, connected with a deranged condition of the billiary functions are very manifest, on account of which, it has derived the appellation of Pneumonia Biliosa. This disease, appears to occur most frequently during the Autumnal and Winter months, or in cold, damp, and variable seasons, in those parts of the country where the miasmatic effluvia is generated and rise in considerable quantities.

The symptoms in the incipient stage of this disease, seem to vary but little from those which are characteristic of the simple form of bilious remittent fever. A sense of fullness and weight, is experienced in the right hypochondrium, prior to the supervention of this disease, and symptoms of dysentery in some cases, though not often, precede the occurrence of the fever. In general, there is a good deal of pain felt in the back and extremities, during the premonitory stage. There is almost always felt an acute pain in the forehead; the cuticle from the commencement is

discoloured with bile to a greater or less extent; and the conjunctiva more especially, assumes a very manifest icterode appearance. Sometimes the pain which is felt in the chest, is very severe and piercing, but more generally it is accompanied with a feeling of oppression in the præcordia. The quantity of matter which the patient expectorates in this disease, is small, in comparison to that which is expectorated in other forms of pneumonic inflammation — the sputa having a yellowish appearance, and frothy consistence, often streaked with blood. Vomiting is a frequent attendant on this disease, and when it does occur, matter more or less bilious is ejected from the stomach, but in some cases, the bilious secretion seems to be altogether checked, this dark substance appearing frequently to consist, of nothing more, than a combination of the gastric mucous and the food which had been previously taken into the stomach.

In this form of fever there ~~are~~ is manifest, distinct remissions in the morning, and exacerbations in the evening. In the commencement of this affection, the tongue is white, excepting the middle

pearl, which is of a yellowish colour, but as the disease continues to increase in violence, it loses this appearance, and becomes dry and of a dark brown colour. The pulse becomes quick, small, frequent, and a little tense, and the urine highly tinged with bilious and other recrementitious matter.

Post Mortem appearances. — The appearances which are exhibited in the morbid structure of the lungs, consequent upon inflammation are:-

1. Engorgement. This condition of the lungs may be the result of two well known causes, In the first place, it may arise from a greater or less degree of inflammation of the lungs, thereby causing an increased activity on the part of the heart and arteries, and consequently, an augmented flow of blood to that region: In the second place it may be the sequel of a debilitated state of the capillary vessels of the lungs, which no longer possessing the power of contraction, they become very much distended, and finally are ruptured. This latter result, is in my opinion by far the most common occurrence. If we open a part of the congested lungs, we find a considerable quantity of a

reddish, and frothy serous fluid running out of the cells that contained it, and the structure of the lungs exhibiting a livid red appearance. The engorged lungs, when consequent upon a high degree of inflammation, becomes exceedingly friable and soft, and may readily be broken to pieces by pressing it between the fingers. It sometimes becomes very difficult to distinguish engorgement by inflammation, from an engorgement which is the result of an extravasation from sanguineous congestion; "therefore, says Andral, we must judge less from the colour, than the degree of firmness of the pulmonary structure". The congested lungs when the result of inflammation, are in general to a greater or less extent exceedingly friable.

2. Red Hepatization. The lungs at the first glance, appearing to resemble the liver in colour and consistence. The structural change which this organ has undergone when hepatized, is considerable, the size is very much increased, the cellular structure is destroyed, and the

whole pulmonary substance displayes a granulated appearance. The crepitous sensation which is felt under the fingers in an engorged lung is in this state entirely destroyed. If a portion of this lung be thrown into water, it will not float, as it would have done before, deprived of its cellular texture; but immediately sinks. When this organ is pressed between the fingers, it is separated into small pieces, and reduced into a red pulpy mass; and if an incision be made, there issues a small quantity of a reddish fluid, but not appearing to be the least frothy.

3. Gray Hepatization. This appears to be the sequel of a higher degree of inflammatory action than that which produces red hepatization. The lungs in this hepatized state, exhibit a condensed and granulated appearance, and from there assuming a grayish hue, the appellation of Gray Hepatization has been given to this variety. When we incize the pulmonary substance, a grayish or yellowish purulent fluid, exceedingly abundant in quantity flows out; but this is not always the case, for in some instances the pus will not make its appear-

-ance until forced out with the fingers, and then but a few drops will issue. Induration or hardening of the lungs, never arrises from acute inflammation of that organ, but appears to be the consequence of chronic inflammation.

4. Gangrene.—In some cases, acute inflammation of the lungs result in gangrene, but these instances are exceedingly uncommon; when this does occur, we find it manifested by a very disagreeable and gangrenous breath, more especially during the paroxysm of coughing, and an expectoration of dark or chocolate coloured matter, which liberates a very fœtid odour. On examining the lungs post mortem, we find them to be in a state of putrescency, of a dark or violet hue, and the adjacent parts, considerably infiltrated and hepatized. Acute pneumonic inflammation very rarely results in the formation of abscesses.

Diagnosis.—It appears to be a little difficult sometimes, to form a judicious diagnosis between the pleuritic affection in this disease and pneumonia; but by a faithful attention to the signs which I am about to enumerate, a person may easily distin—

-guish, and with great precision, a marked difference between these two affections. When percussion is made with the ends of the fingers in perineumonia, a dull sound is produced, while in pleurisy, not the least difference is recognized in the sound which results from percussion on either side of the thorax. In perineumonia when pressure is made on the abdomen, so as to force up the diaphragm against the lungs, the patient is excited to coughing, he becomes very much oppressed, and a feeling of suffocation is produced. In pleurisy abdominal pressure will not produce these effects. "If then we find united in the same patient a clear sound of the painful side on percussion; insensibility to abdominal pressure; smallness and rapidity of the respiration; an increase of pain on full inspiration; particular uneasiness on lying upon the affected side; and lastly pain upon firm pressure of the intercostal spaces of the affected side, we have little reason to doubt the existence of pleuritic inflammation." The distinguishing marks of perineumonia are intense pain and distress when pressure is made upon the abdomen; laborious

inspiration; a deep seated and obscure pain in the thorax; a dull sound on percussion of the chest, and great uneasiness, accompanied with more or less pain when lying upon the back.
Auscultation has been frequently resorted to within a few years past, for the purpose of forming a correct diagnosis in affections of the chest, and with considerable advantage, but it requires a protracted use of the stethiscope, before it can be resorted to with success.
Prognosis. It is not in every case that we can prognosticate with certainty a happy termination, for many instances have occured in which, patients who were labouring under this disease have been restored to health after the symptoms have assumed a most aggravateing character, nevertheless, we can generally give a pretty correct prognosis of this malady.
When the patient expectorates a copious quantity of thick yellowish matter, we may have good foundation for believing that the disease will end happily more especially so, if there is accompanied with this symptom a

cessation of the pain and oppression in the chest, an increased discharge of sedimentous urine; a mild diaphoresis, and an abatement of the cough. When the cough becomes dry and troublesome, and the lips and the whole countenance of a livid appearance; when the pain and oppression is diffused throughout the chest, attended with a red coloured and liquid sputa; when there is accompanied with a considerable degree of suffocation, and great anxiety, a soft labouring and irregular state of the pulse; and lastly when delirium, coma and convulsions follow, or a feeling of coldness is experienced in the internal part of the body, whilst the surface is very warm, great danger is to be apprehended. A lividity of the visage, attended with a rattling respiration, and a continued disposition on the part of the patient to expose the breast, and to raise the head and shoulders from the bed, are to be considered as fatal signs.

Treatment. In the treatment of this disease, blood letting, is the remedy upon which, we

are to place our greatest reliance, and we must not be governed by weight or measure, but by the pulse and the amount and stubborness of the pain. A bold incission should be made in one of the veins of the arm and the blood suffered to flow in a full stream, until there is a mitigation in the action of the pulse, and a diminution of the oppression and pain in the chest. Should the pain and action of the pulse again increase, we must not hesitate again to deplete, until a decided impression is made upon the animae economy. In this disease, blood is required to be abstracted repeatedly, before there is a manifest subsidence or eradication of the disease. Topical bleeding by the application of cups or leeches, is of little or no service in the commencement of the disease, and must with propriety, be confined to that period of the disease, where venesection is no longer called for. After the disease has yielded in a greater measure to the influence of bloodletting, digitalis in small doses, com-

bined with nitre, in the proportion of one fourth to a half grain of the former, to five or six grains of the latter, given every two or three hours, is found to be very useful in reducing the general and local inflammatory action of the system. Purgatives are highly necessary in this disease; but great care should be taken, that they are not administered too frequently, and that the purgatives used, are not too active in there operation, for it appears, that it is more detrimental than advantageous to the patient. Active purgatives are only required in the incipient stage of this disease, and when the bowels are in a torpid condition. When the bowels have been freely opened by active purgatives in the commencement of the disease, gentle aperients are to be resorted to during the remainder of the disease. Moderate doses of castor oil, or one of the neutral purgative salts should be given when indicated, in order that a regular and healthy action may be kept up.

When the remedies fail to accomplish the

purposes intended, we may gain considerable advantage by giving laxative enemeta.

Emetics.– Emetics are very beneficial in this form of pneumonia; they act speedily, increasing expectoration, assuaging the painful sensation in the thorax, and producing general diaphoresis. Frequently, after the administration of an emetic, a copious quantity of bilious matter is ejected from the stomach, mitigating to no little degree, the distress of the patient, and rendering more successful, the employment of other remedies; the emetics used should be those which are not calculated to distress the stomach too much; yet sufficiently active to remove from that organ every offending substance.

Diaphoretics.— Considerable advantage may sometimes be obtained by the administration of diaphoretics, which are cooling in there nature, such as the pulvis antimonialis; the nitras potassae; combined with a small quantity of antimony; and the murias ammoniae; the latter article, has been found to be very

serviceable in this affection, and has long ago, proved an invaluable medicine in removing visceral obstructions and indurations. The following formula, is very useful in this disease.

℞

Murias ammoniae. ℥ss.
Tartras Antimonii. grs vj.
Extract Glycyrrhizae. ℥j.

Ft. fl. solutio. One table spoon-ful of this mixture, is to be taken every three or four hours during the day.

When the frequency and force of the heart, and arteries are required to be subdued, and the expectoration promoted, nauseating doses of tartar emetic, or ipecacuanha should be used, the latter article however, should be prefered to the former I think, on account of its producing the same good effect as the antimony, and being less harsh in its operation. Owing to the idiosyncracy of some persons, the medicine which is given to produce a nauseating effect, acts sometimes as a powerfu

emetic or purgative; when this happens the dose should be diminished or discontinued, and another substituted in its stead; but if the patient can bear the operation of the remedial agent, without producing too great a nausea or vomiting, the dose ought not to be diminished, notwithstanding that there is an abatement of the symptoms of the malady.

Calomel and Opium has been for a long period past highly and justly celebrated as remedies possessing great efficacy in mitigating the symptoms of this disease; the former article increasing the activity of the exhalents, and causing them to pour out an abundant quantity of serous fluid, thereby acting as a derivatory agent; while the latter, acts as a sedative, relieves the cough and pain, increases the expectoration, and prevents the purgative operation of the calomel which would otherwise follow the use of this article. The administration of these

remedies should be confined to that period of the disease where bloodletting and purgatives have been freely employed.
Tartar emetic may be very advantageously combined with the calomel and opium. Should the cough and pain be augmented after we have abstracted blood frequently and freely from the patient, one grain of opium in conjunction with two grains of calomel, should be administered every three or four hours, which lessens the pain diminishes the cough, and very often produces entire relief. In the administration of opium in this affection where the expectoration is free, we should be very careful not to give it in large doses, for fear of checking the secretion. If this article should be used when there is a free and copious expectoration, it ought to be given in minute doses, in combination with tartar emetic, or some other active diaphoretic, in the proportion of one fifth or one fourth of a grain of the former, to an eigth of a grain of the latter, every

three or four hours, or we may administer three or four grains of pulv doveri, which answers very well.

As this disease is often the sequel of repelled cutaneous eruptions of scarlatina, and measels, or of the metastasis of gout or rheumatism, opium and other narcotics may be employed with greater freedom, after the requisite amount of blood has been abstracted by venisection; the dose, being regulated by the degree and obstinacy of the pain which the patient suffers, generally it will be sufficient to give two grains of opium with the same quantity of calomel, every two or three hours, until a manifest impression is produced upon the system. When this affection arrises from scarlatina, measels, or irregular gout opium, united with camphor and ipecacuanha is found to be very efficacious in removing the cough and pain. After blood has been freely taken from the arm by venisection these

articles may be given according to the following formula.

℞. Gum Opii. } āā grs x.
" Camphorae }
Pulv Ipecac. . . . . ʒj
M. ft. Pillulae x.

One of these pills may be taken every two or three hours until the pain and cough has disappeared. Should the pain return they must be continued.

Expectorants, are very useful remedial agents in favouring the speedy resolution of this disease, but there employment to produce beneficial results, should be restricted to that stage of the disease where the inflammatory condition has been duly moderated by venisection; when this has been done, opium and calomel combined in minute doses are two of our most active expectorants. Opium when combined with squills and tartaremetic as in the following formula may be considered the best expectorant which could possibly be used

℞. Pulv G. Opii. grs iv.
Tart Antimonii. gr j.
Pulv Sallae. grs viij.
M ft Pillulae. viij.

One pill to be taken every three or four hours.

Demulcent drinks, such as flax-seed tea, infusion of slippery-elm bark, solution of gum arabic, and barley water, rendered palatable by adding a little sugar to them, may be given freely to the patient; these are found to be very useful adjuncts to the expectorants above enumerated.

Blisters have been employed with considerable advantage in this disease, but they should not be resorted to until the force and vigour of the pulse has been properly diminished. As the good effect of the blister depends upon the counter irritation, and subsequent depletory action of this agent, it necessarily follows that the larger the blister is the more readily we may expect the malady to yield to its influence; therefore the

blister should be one of considerable size: One which is six by eight inches should be applied to the affected part of a grown person, while one of a smaller size to that of a child.

When the symptoms in chronic pleuritic inflammation betray the existence of effusion in the cavity of the chest, we should resort to the diuretics, such as the powders of squills, tartar emetic, digitalis, and many others which might be enumerated. The following formulae have been found to be very serviceable in this affection.

℞.

Pulv Scillae ʒj
Tart Antim. grs ij
Sup Tart Potas. ʒiss.
Sulphat Potas. ʒij

M. ft. Solutio. Dose ℥ss, three or four times a day. This combination of articles when taken internally produces a copious discharge of a watery fluid from the bowels.

Or.

℞. Pulv. Scillae. ʒij
Sub. M. Hyd. ʒj.
Pulv Digitalis. ʒj.

M ft Pilulae XX. One to be taken three or four times a day.

When the inflammation has continued until empyema, or vomica has resulted, Paracentesis Thoracis, has been recommended. In some instances this operation produces permanent relief, but more generally it only protracts the life of the patient for a few days or weeks; it is therefore always employed by the physician as the dernier resort.

In hepatization of the lungs considerable advantage may be obtained by resorting to counter irritating applications, to the chest as near the seat of the disease as is possible. Setons, caustic issues, and blisters may be employed in this state of the disease with a considerable degree of success. Frictions with an ointment composed of tartar emetic

or white precipitate, and lard when well applide to the thorax, near the seat of the disease, has been productive of much good. The mercurials when united in minute doses with opium, or the extract of conium or hyoscamus, and taken internally, will often afford considerable relief. Should the disease terminate in suppuration of the lungs, the patients strength must be upheld by the employment of stimuli, such as opium, the extract of conium, and an unirritating, nutritious, and digestible diet.

R. L. H.

A Thesis

by

Frank Bohrer

An
Inaugural Dissertation
on the
Practical uses of Anatomy
submitted to
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Prevost, Regents and Faculty of Physic
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by
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of
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The practical uses of Anatomy

To the Genius of Intellect and to the votaries of Scientific acquirement, the Earth offers her sources of pleasure and profit in most lavish profusion. In all climes and in all ages, the mighty leverage of Science swayed the mental and physical energies of the most refined, as well as the most rude inhabitants on the Globe. In the grand circle of Knowledge, there is no Department which is entitled to higher estimation or which has added greater trophies of national pride than the ars medica. Philanthropy and an expansion of the mind after objects of useful attainment must have given origin to an inquiry into the complex machinery of man. And though we admit the wisdom which inculcates the study of man in a vital state as most proper, still an inquiry into laws relating to the dead body, we regard as worthy of no less consideration — — —

A correct understanding of the parts and uses of organs in the human economy is essentially necessary for the acquisition of celebrity in the healing art. When superstition prevailed and when the severest penalties were enforced on those who dared to dissect even the most abandoned, then was Anatomy paralized, and the few and imperfect truths which were elicited, were called forth more through curiosity than a laudable desire to benefit mankind. But when some noble spirits casting aside the veil of a blind and foolish superstition and urged by their philanthropic feelings, examined the sources of life and death and the appearance of the healthy and diseased structure then and not till then did medicine assume the form of a Science. The origin of the medical profession is attributed to the Egyptians & Arabians whose cures were mostly surgical and assisted by magical ceremonies but to the Greeks belong the credit of separating it from all its previous rude ceremonial remedies.

In Homer Theis celebrated bard & historian we first displayed an extent and accuracy in Anatomical information truely astonishing. As the human frame is so complex and its parts numerous and intricate, it is natural to suppose that many ages were necessary to bring it to its present perfection and tis truely a satisfactory task to note its onward progress through all obstacles whether of ignorance, superstition or a too zealous veneration of the bodies of the dead. Once the superstition of a barbaric age threatened to sing the death song of Anatomy but the success of Galen, Hypocrates and others in Comparative anatomy gave such an impulse which served to conque all difficulties & to render their names illustrious forever — The Student who would prosecute the study of it successfully, must pay regard to order & proper arrangement, he must study the bones perfectly, the veins, nerves, arteries and muscles in a regular and Systematic order — Anatomy when thus grasped, is not the dry

and wearisome task that some would have us believe, but is an interesting & delightful exercise - Armed with a thorough knowledge of the parts & uses of the entire organs of the system, the Surgeon does not practice his fearful profession with hesitation or grope in darkness but with bold & fearless confidence he stands forth as the preserver of countless lives and as a proof of the necessity of true anatomical acquirement - What would be thought of a Surgeon who would undertake to perform a capital operation without having ever used a scalpel in the Dissecting room - Humanity might think but reason would prove him insane - It is as necessary to the skill of the Surgeon as atmospheric air is to the blood, the true pabulum of the body - The same enthusiastic ardour that prompted the Greeks to lay the globe under contribution to enlarge their store of general information alike caused them to obtain an enviable excellence in the healing art - In this branch of science as elsewhere Greece held

no second place, acknowledged no superior — To the reflecting the necessity of Anatomy is obvious, and its acquisition replete with the most satisfactory results — If it unfolds beauty & profit to the Naturalist, Philosopher and Painter, how much greater zeal should be manifested by the Disciples of Galen, whose main hopes of ultimate triumph depend on the manner in which they regard this division of medicine — To him whose whole soul is filled with love of his profession, whose slender and emaciated form prove the ardour of the pursuit, to such a one in an eminent degree does anatomy appear in its true light, as a blessing to humanity, and the summum bonum of science — Even to the Theologian, it offers thoughts and arguments in his favour, which alike startles the Atheistical dreamer in his unenviable meditations, and still more firmly establishes the truths of Christianity — — (And though finite man cannot with precision establish the locality of mind, still what curiosity is more natural or laudable than

a desire for the possession of a perfect acquaintance with the frame which is the vehicle of the soul, the organ by which it acquires all its ideas, the instrument of all its operations, and on whose health depend ~~[illegible]~~ life & happiness — 'Tis the very spirit of Americanism and the essence of her Republican institutions to guard against the usurpation of ignorance with sleepless vigilance, and as long as knowledge shall be appreciated and diffused, so long will Medical Science remain to bless humanity. But ~~if~~ should the deep night of darkness which now rests upon so large a portion of our globe, enshroud with its gloom this fair land of liberty and tolerance, then all that exalteth a nation will abandon us for realms more congenial to scientific pursuits — — The Science of Medicine is both natural and reasonable, originating in necessity and expediency, & to quote the words of a physician of eminence, tis nobly philanthropic in its objects, universal in its requisitions and sublime in its results — — — — —

All the Divisions of Medicine are alike important in their general tendency but Anatomy is the rudiments, from which much practical benefit is derived. We learn from Monroe, Hunter and others, the great use of morbid Anatomy in the thorough investigation of Disease, giving us great advantages in forming our decisions as to the exact cause of suffering. Without its guidance our opinions would often prove as vague hypotheses and savoring of the most absurd Empiricism. From the rough and unseemly mass of Theory and Speculation which were offered for the alleviation of the diseased, the vigorous exertions of the morbid Anatomist, have assisted in no small degree to change theory into practice and speculation into certainty. And though the venerated lives of those benefactors of our race have long since realized the Shadowed Past, still a most enviable reputation is established for them in the hearts of their descendents. What Disciple of Galen in looking over the voluminous records of their anatomical investigations, does not

experience a thrill of delight at their discoveries and a veneration for high talents; and an ardent desire to imitate examples so glorious. We notice with marked interest fact after fact unfolded in ample pages before him and in his stern regard for those facts clad in robes of reverential antiquity, he almost worships men who have spent the spring-time of youth & manhood to the detriment of life in anatomical pursuits. By noting the previous symptoms and by a comparison of them with the morbid appearances, we arrive at a more accurate Diagnosis and an eligible habit of Philosophical research. A new Era in the history of medicine has dawned upon us, and the genial warmth of its influence is fast dissipating the icy barriers which have so long stayed its salutary advancement. No longer does Superstition that baleful foe of science stalk abroad and arrest the hand of the anatomist in his labors. No longer does the pernicious effects of a too great veneration for names, cloud the medical pathway but in the almost limitless field of

medical Science, freedom of thought and expression is yielded as the birth right of freemen — —

It is but natural to imagine that as far back as disease and death prevailed, man would be prompted by curiosity alone to offer some antidote and to examine the deceased to discover the cause, but such was not the case, the springs of life were not so well understood as now, and man sickened and died without any proper means being taken to arrest its progress or to unravel the mysteries of the varied forms of Death — In those days the worm was not as now deprived of its spoil by the zeal of the Pathologist and Anatomist and the grave held the secrets of all maladies — Even in Egypt where the science first began to be cultivated with success its maxims were confined to the Priests alone who were the guardians of soul and body and owing to a superstitious feeling, its votaries had but rude ideas of the application of remedies with some little skill in the treatment of wounds and cutaneous diseases — — —

About the 6th Century before the Christian

Era. The true principles of Pathology were commenced by Pythagoras, but the anticipations of the Philanthropist were not yet to be fully realized. It was left for the Moderns to extend if not complete those Pathological investigations which have rendered the Theory of Medicine glorious and made the practice of it both certain and effective. Though Hypocrates made observation the test of his discoveries, and noticed the effects of external agents on the system and was conversant with Purgatives Sudorifics and Diuretics, lanced, scarified and cupped, still from want of Dissection, his treatment must have often been Empirical. Galen also, a remarkable man who by his brilliant Genius enlightened the Medical world and whose fame can only perish with the science, was denied the mighty aid of Human Anatomy in his glorious victories over disease and Death. The eminence of such men obtained without such powerful cooperation is a proof of the superiority of mind over circumstances and warrants the belief that with present advantages

many may realize like if not even greater Professional celebrity – Without Anatomy the slightest operation in Surgery would be productive of serious mischief – Even Venesection the sheet anchor in the treatment of all inflamatory affections, would prove destructive of life – Constant contributions are presented to the world by the votaries of Science to add alike to the wisdom of the Nation and the fame of the Author, but to none is greater credit due than to the French Pathologists and those of our own clime who have through anatomical inquiry, caused as it were the organs of the Chest to proclaim the Diseases under which they labour – I allude to the the greatest of modern discoveries, auscultation & Percussion by which not only can disease be certified but the position and progress of it pointed out with astonishing precision – – – –
The Medical Profession is one of care and responsibility but by proper deportment, the interests of humanity may be held inviolable and Medical and general science illustrated and adorned –

As the light is the only proper stimulus to the optic nerve, or the blood to the general system so is anatomy the only true stimulus to exertion in Surgery, without it, he cannot move a step in his operations. It is moreover the most successful antidote against quackery and charlatanism. Ambrose Paré stands forth as an example of one whose skill obtained for him the veneration of the noblest spirits of France. The Dissecting rooms of Paris and the Hotel Dieu can tell of his assiduity in collecting anatomical information which shed a halo of glory over the name of Paré. Precision and truth mark the writings of a man whose knowledge was derived from ocular and manual examination of the natural and diseased structure of the system. Fame from her lofty temple has sounded the praises of Paré, Petit, Le Dran and Larry, who gained their skill from the Dissecting room and practiced it amidst the confusion, danger & horrors of battle.

Anatomy furnished them with the mysteries of organization by which the vital functions were invigorated, and the living principle made to flourish with renewed activity and a more healthy action excited and established. The calls of humanity are more regarded in the present time than in those Gothic times of violence, but from the Past we may gather much useful in gesta and from the map of ceremonial remedies chose many which might adorn the Cabinet of the Pharmaceutist and grace the Museum of the Modern Pathologyst. We can strengthen our views in relation to the virtues of remedies by noticing the views taken on the same in past ages and thus decide upon the mode of practice to be preferred. Tis interesting to watch the Proteus forms and the Physiognomy of Disease, to observe the slow improvement in the facilities of Diagnosing and treating Disease & see how the remedies which were the theme of universal applause at one period, in turn supplanted

by remedies perhaps not possessing so great medical properties. In truth it was the perfect knowledge of Anatomy which has made Baron Larry and Dupuytren of France & Astley Cooper & Hunter of England respected & almost deified in their own country and remembered in ours. (This consecrates their works and marks them with the seal of sterling merit, by this their fame will be preserved through all time.) And while we read their writings with unimpaired pleasure, may we not learn to follow them in the same honorable path and pursue the true way to be truely great. The skill which heralded their reputation through Europe, passed over oceans and prepared the minds of persons of other realms for the profitable perusal of their works, works which elicit unbounded applause, whose truths are enforced, explained & illustrated by continual reference to the functions of organs. The impulse given to medical science by the investigations of Bichat, the Monroes

Hunter and others in anatomy, awakened a spirit of inquiry which lead to discoveries preservative of human life – The anatomist who by zeal in his investigations discovers the spring by which lesion and dissolution may be prevented, does as much if not more for his species, than those who have control over the Disease when formed – These are true men, the disinterested benefactors of their race – The Discovery of the uses of parts not known to the Literati of the antients enforces the belief that by future labors light will be made to shine on parts, whose offices are still unknown and that an immortality is yet reserved for those having the requisite skill and patience to bring about such a result – Pathological Anatomy is almost indispensible to the intelligent and practical physician ensuring confidence and never-failing resources in times of difficulty and pressing danger – It assists much in the Diagnosis, Prognosis, and as a sequitur in the treatment of Disease – By it each

case and even the accidents of a case will be better understood and the ravages of evils more successfully combatted — (Every man will reason well in exact proportion to his acquired knowledge, and will act with sense and judgment in the same ratio with his reasoning — The hand does not easily tremble or the mind waver that knows how to perform its duty, but dexterity and boldness will follow judgment and skill) — The mind of the skillful even amid confusion — is full of firmness, his reasoning is rapid but sure, and he reaps advantages from anatomy which he did not once think to be so closely allied to practice — If anatomy had no nobler inducements for its prosecution, the pleasure alone derived from knowing the action of the constituent parts of the system would be ample remuneration for any trouble that might accrue — To see them performing the offices imparted by a divine agency without interfering, contiguous yet distinct, governed by one will & obeying one mind is surely full of delightful interest — —

Anatomy has higher grounds than those before stated for encouragement – were the Physician to understand the appearance of the healthy structure perfectly, what avails it if he does not also realize the morbid changes – The sounds evinced on Auscultation and Percussion can only be of use by a reference to the healthy ~~structure~~ sound, as a starting point – The Examination of the morbid and healthy parts is absolutely necessary for a true Diagnosis which can only be acquired by a zealous & repeated recourse to a dilligent syster of Dissection – The Diagnosis is paramount in interest to the treatment; indeed the treatment may be known with mathematical precision and still the disease may go on toward a fatal termination if it remain unknown – Take away anatomy and you lop off the right arm from the great medical trunk, and instead of a systematic and scientific Profession, the healing art would consist of rules without reason and enshrouded in a mass of Hypothesis and absurdity – Anatomical knowledge is gleaned from the osseous structure, the parts above or

enclosed in cavities whether organs of Respiration Circulation, nutrition or secretion — For one, the Brain ~~inspires~~ inspires the warmest and deepest interest whilst another prefers the study of the nervous muscular or vascular system and still a third sees beauty and profit in the graceful outlines of the bony tissue — In the same ratio with the deeper love and investigation of any one part, will that portion be better known and information acquired and diffused — The most superficial observer cannot fail to notice the improved methods in Surgical practice now with those of former times — No more is the stump of an amputated limb dipped in boiling pitch or the actual Cautery applied to check the haemorrhage from the bleeding vessels — amputation for Aneurism being obviated by the successful application of the ligature, and the former fatal termination of Lithiasis being avoided by the dexterity and skill of modern Surgeons in Lithotomy and Lithotripsy — All these are either glorious inventions or improvements of the present day depending on a knowledge

of Anatomy for their successful results so intimate indeed is the connexion of Anatomy and Surgery that as in past time the introduction and progress of the one ~~has been~~ was the pioneer of the other, so in future the causes which check the one will paralize the other. If the pernicious effects of superstitious feelings should again obtain unlimited sway over the public mind, and dissection and Autopsy be prohibited by law, it does not require the spirit of a prophetic vision to predict that the Star of Anatomy will set in darkness and in the same gloom life saving Surgery will also expire. But the present bright prospects of the Science forbid the anticipation of such serious evil, the Star of Medical Genius is now in the Zenith of its glory and when it shall have passed from its present lofty height to the horizon, all other Science shall have left the world. Had the Immortal Harvey been ignorant of the anatomy of the System and especially of the circulatory organs, their course & properties, the former rough and foolish notions of the Circulation of the blood would still exist as the opprobium of Medical Science. But though

~~Since the true principles were announced by~~ much has been done in the different divisions of medicine, and ineffective remedies banished and a thousand apparent obstacles removed from the medical pathway, still there is much for the zealous votary to settle and establish. The Spleen, Capsulae Renales, Thymus and Thyroid Glands still remain as stumbling blocks to medical men. Their true use unestablished & unknown. The present rapid strides in anatomical research, forbids the idea that darkness will rest for a much longer time on any portion of the System as regards the uses of organs, but the consoling voice of the Past reassures us that intellect is progressive and with this progression of the mental powers, few subjects will remain to disturb the midnight slumbers of the scientific votary.

The march of medical discovery is onward and should not ignorance interpose its remorseless advent, the triumphs of Genius over Disease will be realized in such perfection that a Methuselah may yet tread the land and earth may see golden days, fruitful of golden deeds. To state all the uses of Anatomy would consume more time than is requisite, tis useful in the Pathology, Diagnosis, Prognosis and the treatment of Disease, to the intelligent

for actitioners of medicine and to scientific men. The ball of medicine put in motion by philanthropic men passed over the Earth with increased velocity, until men of all climes aroused by the concussion, hailed it as an omen of health, life and happiness to an afflicted world. The names of Bichat, Harvey and others who have made great additions to anatomy, still lingers on the field of anatomical labours and in the memories of those who have love for high talents and exalted worth. The names and lives of such men are a nations heritage and endure as links in the grand chain of national greatness and national pride. (Their is a noble monument which will exist as long as the mind of man is free. Tis not of marble or of brass, for the rolling years would pass over it & it would crumble & decay like the mausoleum and the column of another Era, it would moulder. Time's iron finger would be busy on its surface & at its base & soon in the stillness of ages it would fall & not a vestige remain to mark to coming generations the spot where it stood. Tis a monument more durable in its structure, more noble in its proportions, erected in the reverence of mankind. Around its summit lingers a halo of imperishable glory and at its base is the gratitude of civilized man.) — — — — — —

An
Inaugural Dissertation
on
"Strabismus"
Submitted
to the Examination
of
The Provost, Regents, and Faculty of Physic
of
the University of Maryland
by
Stedman R. Tilghman
of Maryland
February 1843.

Strabismus is derived from "σραβίζω" to squint; It is a want of correspondence in the actions of the muscles of the eye-ball; When the eye turns inwards, it is termed "Strabismus convergens". On the contrary when it turns outwards, it is termed "Strabismus divergens". The former is much more frequent than the latter. Causes. Remote and Proximate = 1° The remote causes are various, each of which may be regarded as giving rise to a different variety of the disease. Mackenzie says 1°. Strabismus appears to take its origin, in many cases, from improper education of the eyes in young children. 2°. Children sometimes become squinters from a fashion of looking at the point of the nose. 3°. Imitation has been accused of causing Strabismus. 4°. Darwin was of opinion, that the most frequent cause of squinting in children was the custom of covering a weak eye, before the habit of observing objects with both eyes was perfectly established. 5°. Spasm of one of the recti muscles has been sometimes considered a cause of Strabismus. 6° A speck on

the cornea is a frequent cause of squinting. 7° The most frequent cause appears to be imperfect vision from "myopia", or from congenital defect of the retina. 8° Strabismus is induced by various diseases of the brain." = 2° Proximate cause: Whatever may be the remote, the proximate in some way or other affects the muscles of the eye-ball. Its treatment by Surgical skill was very imperfect till a few years ago. Various remedies were used for this deformity - such as frequent Exercise of the diseased eye. the use of Spectacles with one half of the glass, corresponding to the squint-eye, made opaque, thus in "Strabismus convergens" the eye would make efforts to look through the transparent portion. In "Strabismus divergens" black patches were placed on the side of the nose. Yet these were very uncertain agents. = How great has been the change within a few years past! Now the Surgeon is able to operate for this malady with as much certainty as for Cataract - fistula lachrymalis. &c. &c. with less danger to the patient - and much more easily. History. No one pretends to say that the division

of the muscles of the eye, for the cure of Strabismus is a modern invention — At the same time it is but just to allow a special mention to some Surgeons of the last Century. In fact, the operation for Strabismus has really been spoken of — and in all probability even been practiced many times before the Moderns applied it to general practice. Every thing shows for Example, that the famous Charlatan Taylor employed it himself frequently; "We find the proof of this" says Velpeau, "in the Surgery of Heuermann, who says, "Taylor has pretended to cure Strabismus by the Section of the tendon of the Superior oblique muscle; On the other hand it is remarked in the Records of the works of the Société Academique at Rouen, an observation thus Expressed, which can apply to no one but Taylor. "With a needle armed with a strand of silk, the Charlatan transfixed the conjunctiva, says Lecat, And divided with a clip of the scissors the fold of the membrane formed by the loop of the silk; he covered the Sound eye with a plaster — the Eye which squinted became straight, and they cried out a Miracle!. Being questioned in relation to the

design which he proposed to himself in this operation, the Charlatan T. answered, "that Strabismus occurs only from an inequality of the muscles, and that it suffices for its cure, to weaken one of them". M. Giraldes gave M. Velpeau a paper, from which it is seen that Taylor having come to Paris, announced himself every where as curing Strabismus by the aid of a Surgical operation. "M. le Docteur Taylor, oculist to the King of Great Britain, has arrived lately at the Hotel de Londres, rue Dauphine in Paris, where he intends to remain till the first of July, after which he will depart, say the Editors, to go to Spain: he desires us to publish the discoveries which he has made to straighten the eyes of Squinters by a prompt operation, almost without pain, and without any danger". (Mercure de France année 1737. Juin, page 1180). M. Lunier remarks also in the dissertation of Verheyden, Sustained in 1767 this singular phrase "Strabones per multos ferro sanatos apud Anglicos vidi". Now is it true that this celebrated Charlatan really cured Strabismus? — One thing is certain, to whatever opinion we incline, — that the section of the muscles of

the eye is plainly shewn as being capable of curing this disease by Taylor, as far back as the middle of the last century. It was however completely forgotten, or put out of practice till M. Stromeyer described it as something perfectly new. M. Sammels de Courtray pretends to have practiced it twice in 1824. or 1825; — M. Carron du Villards says that he had thought of it in 1838. On an occasion in which a hunter, in whom a shot being forced into the orbit, cured a strabismus of long standing by detaching the trochlea of the superior oblique muscle, meaning that he had conceived the idea from the fact that the strabismus was cured by the shot dividing the trochlea. M. Gensoul de Lyon had also proposed the section of the muscles of the eye before M. Stromeyer, nevertheless the work of M. Stromeyer is really the only one that opened our eyes upon this subject. In 1838 the Surgeon of Hanover described his operation, although he had then only tried it on the "dead subject". M. Pauli wished to make the experiment in 1839: before M Pauli however, was able to accomplish it. M. Florent Cunier operated on a living man in October 29th 1839. Although the

date of the first operation of M. Dieffenbach had been laid down in a very vague manner, since M. Verhaegh reports it in December, while M. Phillips falls back to October 26. 1839. Nevertheless it is but just to say that although it was formerly practiced, and traces of it is easily seen in writings already ancient. Still its creation, due one to M. Stromeyer, afterwards usefully practiced by M. Dieffenbach. Since the section of tendons in other parts of the body - the section of the ham-strings in retraction of the leg for example / cures deformities, it is easy to conceive that it should be applied for the cure of Strabismus. When however the cure of Strabismus by an operation was announced, many Eminent Surgeons conceived some doubts of its reality. The first letter of M. Dieffenbach produced but a feeble sensation in France. Later M. Guerin having cured only one in four / Gazette Med. 1840.). M. Roux having failed in his two first operations. Velpeau having obtained only a feeble proportion of success, It was but reasonable to think strangely of the announcement of the "constant success, published in the name of the Surgeon of Berlin. Indeed

the reports of Mr. Phillips while in Russia was very different from those he has since made in France. In Russia he does not mention a single unsuccessful case in one hundred operations performed by himself; still in four hundred cases, all were happy in the hands of M. Diffenbach. Yet since the sojourn of this Surgeon at Paris, in a report of one hundred cases, 25 were unsuccessful.
Before speaking of the different methods of operating as practiced by different Surgeons, it would in the first place be better to speak of the tissues which fill the orbit. 1° The conjunctiva – Globe of the eye. The muscles. And the fibro-cellular tissue which forms a sheath more or less complete for each of these organs. Before the operation for Strabismus was spoken of, Surgeons were scarcely occupied with the subject of the aponeuroses of the orbit. Since however myotomy of the eye has been practiced, numerous researches have been made upon this subject, and described with a care which leaves nothing to be desired. History however shows that the Ancients had known all that exists of fibro-cellular tissue in the orbit. Galen knew

the cellular envelopes of the muscles of the eye. Zinn has also described them. Tenon however first wrote an article of any length, upon the aponeuroses of the eye. 1°. Muscles of the orbit. There are seven muscles in the orbit, six only play any part in the question of Strabismus. The four recti muscles, too short, or too much contracted tend to shorten the transverse and vertical diameters of the Sclerotica, at the same time that it makes the cornea prominent, whence a cause of myopia. whence the idea of dividing these muscles for this malady. The inferior oblique muscle by contracting alone turns the eye outwards, and upwards, thus it plays a certain part in External Strabismus. The Superior oblique carries the eye inwards & downwards. at other times it rather assists the External rectus and the inferior oblique muscles: By their simultaneous action draw the eye fowards. 2°. Globe of the eye. There is nothing in the configuration of the globe of the eye, which merits any great attention relative to strabismus, only that it should be remembered that the optic nerve is inserted within the antero-posterior diameter of the Sclerotica.

less distant from the cornea within than from without. This organ being composed of a fibro-cellular shell, almost without sensibility, very thick, and capable of having much violence exerted upon it without injury. Notwithstanding which by some unfortunate circumstance an operator in Paris penetrated the globe of the eye in making the incision through the conjunctiva. 3°. Nerves. Among the nerves of the orbit there are only the sixth and third pairs which really merit any attention here. As to the optic nerve it is only necessary to recollect that it represents the axis of the orbit behind the eye, thus not to expose ourselves to divide it, as has once happened to a Surgeon in Paris. The sixth pair supplies the external rectus, and if it were paralyzed it would produce an internal strabismus. Then as the rest of the muscles are supplied by the third pair, a disease of it would produce an external strabismus. Since the nerves of the globe of the eye come from another source, we conceive that the operation ought not to produce any nervous disorder in the ocular functions. 4°. Vessels. They decrease in size, in proportion as they are more

distant from the globe of the eye. The arteries all spring behind from the ophthalmic, and are so small when they arrive near the conjunctiva, or at the anterior extremity of the muscles, that their section at the place where we carry the instruments in this operation, does not expose us to any grave hemorrhage; The large veins of the internal angle of the eye, of the eye lids, of the root of the nose enter the cranium along the internal wall of the orbit, so that in this operation, we should not carry the instruments too near the os-Ethmoides. 5° Aponeuroses. The nerves, the vessels, the muscles, the globe of the eye, the conjunctiva, the eye-lids are all enveloped and covered with layers foreign to their own structure, these tissues are vaguely described under the titles of fatty-cellular tissue of the orbit. To understand it properly we must admit with Velpeau, that the fibrous tissue is only a transformation of cellular tissue, that all the movable organs of the economy are enveloped in some covering, whether it be cellular, fibrous or fibro-cellular; finally that the space between all parts so covered is filled with fatty depositions or cellular tissue, lamellated or filamentous. —

1° Aponeurosis of the eye. This covers the whole globe of the eye, and the whole of the optic nerve. Continuous with the aponeurosis of the conjunctiva in front. 2°. Aponeurosis of the conjunctiva. Merely a cellular lining, corresponding to the "fascia propria," which fortifies the adhering face of serous membranes. 3° Aponeurosis of the orbit. Another cellular lining, seems to be continuous with the preceding, covering the periosteum in all its extent. 4° Aponeurosis of the muscles. Fibrous, or rather cellular cases, flattened and adhering to the muscles, is continued from one to the other, in the form of membranes spread around the globe of the eye. Between this and that of the eye, there is behind, only fat, cellular filaments, vessels, and nerves, the same exist between the recti and obliques muscles. =

Methods of operating. Having finished the general anatomical disposition of the eye, I shall now give the different modifications already introduced into practice after the following manner. 1° Method of Stromeyer. He thus describes his operation, "In strabismus convergens of a spasmodic nature, cover the well eye, and direct the patient to turn the

squint eye as far as possible outwards, the operator then implants in the conjunctiva towards the internal limit of the bulb a little double hook, which he gives to an assistant, to hold the eye outwards. Armed with a pair of forceps the Surgeon raises the conjunctiva, and then makes a vertical incision with the point of a cataract-knife, in such a manner as to open the orbit on the internal side of the bulb: at this moment the assistant draws the globe of the eye yet more outwards, which causes the internal rectus muscle to appear. Having passed a probe beneath the muscle, it is cut with a pair of Scissors somewhat curved; or with the same knife which has served to make the section of the conjunctiva, the operation finished, you apply cold fomentations and give a dose of opium. Keep the well eye covered during a certain time, in order that the motions of the eye operated on may be restored by exercise." M. Stromeyer does not mention any manner for keeping the lids open, nor the position of his assistants. This however should not detract from the credit of his invention. 2°. Method of M. Dieffenbach. M. Verhaeghe, one of the first operated on by Dieffenbach, avows that in his first trial

in December 1839, the Surgeon of Berlin, who conformed in all points to the indications of M. Stromeyer, met with many difficulties; as much in exposing the internal rectus muscle, as in seizing it. The operation was however successful. The Method afterwards practiced by Dieffenbach is thus described by the Belgian Surgeon (Verhaeghe, memoire sur le Strabisme). The instruments are an Elevator of Pellier, a double blunt hook, supported by a slender handle, to depress the lower eye lid, two small sharp hooks, to catch the conjunctiva. Scissors curved upon their flat side, to incise this membrane. A blunt hook to slide under the muscle, which is divided with the scissors. finally a small sharp double hook, reserved by the operator in case the eye is turned convulsively inwards at the moment of incising the conjunctiva; which can then, by being implanted into the Sclerotica easily command the eye. A Sponge and some clean water complete the apparatus. Two assistants at least are sufficient in adult cases. In other cases of greater difficulty more assistants should manipulate. The patient is placed in a chair as if for the operation of Cataract. The operator seated upon a chair, more elevated ⅓ to one

side. An assistant places behind the patient, supports his head against his breast. The Surgeon places the elevator of Pellier under the upper eye-lid and gives it to an assistant above mentioned. The "depressor" of the lower eye-lid is held by another assistant in front, who at the same time attends to the hands of the patient. It is recommended to the patient to turn the eye outwards, while the other should be shut. The small double hook is then implanted in the conjunctiva near the caruncula lachrymalis. the Surgeon implants the second hook near the cornea through the conjunctiva, and holds it himself in his left hand, while the conjunctiva is thus raised in the form of a fold, the operator armed with curved scissors, makes a section, and divides by little clips the other tissues, till the muscle is exposed. He then lays aside the scissors, and takes the blunt hook, which he slides between the sclerotica and the muscle, to finish the operation. it is then cut with the scissors. You make use afterwards of some lotions of cold water to wash away the blood, and the patient is directed to open both eyes to see if they are straight. M. Verhaeghe thinks this method of Dieffenbach is essentially different from that of Stromeyer. But Velpeau in his observations on this subject does not draw such nice distinctions: thinks than

is but little real difference. Like Stromeyer, Dieffenbach shuts the well eye, and directs the squint eye to be carried outwards, pierces the conjunctiva with a small hook, and divides the muscle, either with a little knife, or with scissors, after having isolated it by means of a forceps, or with a blunt hook. The only difference which merits any notice, is that instead of hooking up the conjunctiva near the caruncula with a pair of forceps as does M. Stromeyer. M. Dieffenbach employs a second hook. Now as to the separation of the eye-lids it is clear that this should not be considered as a part of the operation. 3° Process of M. Liston. Believing that there is no necessity but for one assistant, who is charged with the upper eye-lid. M. Liston then embraces the lower eye-lid with a pair of spring forceps which is then abandoned to itself, thus dragging down by its own weight the inferior eye-lid. Both hands thus free, the Surgeon then proceeds to the operation by the ordinary means. This is a bad practice, except in case the Surgeon has no assistant. 4° Method of M. Roux. Similar to the German method, except that the blunt hook has on its concave side a groove to serve as a director to the little bistoury used to

divide the muscle. M. Bonn failed in his two first cases, and now does not advocate the operation for Strabismus.
5°. Method of M. Velpeau. 1° Process. The patient seated in a chair, having the eye-lids opened by the elevator of Pellier, and a triple blunt hook; the patient is then directed to turn the eye outwards, as much as possible, a little double hook thrust as far as the sclerotica, is given to an assistant, if it is the left eye, or held by the operator, if it is the right eye. With another hook of the same dimensions, but a little less curved, and less sharp than the hook which is used in the excision of tonsils. He looks for the muscle through the conjunctiva, so as to seize it from above downwards, as deeply as possible in turning out the globe of the eye, to bring it in front under the form of a cord, With the right hand. Arrived at this point a little curved knife, bearing some analogy to a pruning hook, is used to divide by the same stroke the whole thickness of the cord raised by the hook: which is composed of the retracted muscle, of the fibro-cellular envelope, and of the conjunctiva. = Often patients upon whom this form of the operation was performed; three only were completely cured. 6°. — 2° Process of M. Velpeau. By the first method there was not a dissection suffi-

ciently extended. and therefore he modified it thus. Patient seated in a chair – head supported by an assistant, eye-lids opened by known means, or with the "blepharaigon". Standing in front of the patient, on the side of the squint eye, the Surgeon seizes with a "forceps à griffe" a large fold of the conjunctiva and the insertion of the muscle into the Sclerotica to fix the eye & drag it outwards. If it is the right eye, the Surgeon should hold the forceps himself in his left hand: Then with another "forceps à griffe" – more strong equally armed with teeth, the operator embraces more deeply the muscle and the conjunctiva near the carunculla, in order to stretch and raise it. This last forceps is also confided to an assistant. The Surgeon then with small scissors, blunt at the point, straight, or slightly curved upon their flat side, held in the right hand, divides the whole cord contained between the two forceps. Thus the operation is finished by a single clip – before the forceps are taken away the scissors should be carried to the bottom of the wound to lay bare the Sclerotica effectually. It should be well denuded, and the Surgeon [illegible] sure that no adhesions exist between the globe of the eye and the

neighbouring tissues. By a clip of the scissors a portion of tissue held in one of the forceps may be excised if the surgeon should deem it expedient. 7° Variety of Process. Velpeau has now reduced the number of his instruments to three. "Blepharaegon en fil de fer", forceps à griffe" and blunt pointed scissors. — Half a minute suffices for the operation. The instrument invented by Mr. K. Snowden he thinks is without doubt superior to any other for raising the upper eye lid. Velpeau has since modified it — making it more simple, & convenient, this is the one "en fil de fer elastique", by its aid the surgeon can without any assistance perform the operation. Forceps are much better than hooks — Indeed they compress the vessels before they are divided — give a degree of permanence to the eye during the operation. — A portion of the muscle can be excised very conveniently before taking away the forceps, as was first practiced, since rejected by Mr. Dieffenbach — afterwards practiced by Mr. Mr. Simonin & Phillips — then by Bonnet & Velpeau. The scissors best adapted for the operation should have long handles and short blades, blunt pointed — straight. In making an incision into the conjunctiva tis better to open it nearer the lower eye lid

than the upper. This can be limited to any size that the surgeon may think proper — then by passing the beak of the scissors into the wound the tissues can be separated to any necessary extent. "Divide all the tissues which unite the globe of the eye to the conjunctiva" says Velpeau without enlarging the incision in this last membrane. Thus it will resemble a variety of the method "sous-conjonctivale."

Process of M. Guerin —. Under the title "sous-conjonctivale" M. Jules. Guerin, who, as we know occupies himself with great success in the treatment of deformities, has instituted two methods. First method of Guerin. The patient is laid upon a bed, or a table covered with a matrass, the eye-lids are kept open by means already known. The surgeon seizes the conjunctiva near the cornea with a hook, single or double, which he gives to an assistant, charged to turn the eye outwards. Seizing then the conjunctiva near the Caruncula between the teeth of a large forceps, he incises this membrane — dissects a flap, which he opens within: And by this means exposes the muscle; Raised with another forceps, the muscle is embraced and divided with curved, scissors, blunt at the point. He reapplies the flap, and the operation is finished. This method which scarcely differs from that of

M. Ferral or of M. Lucas gave as little satisfaction to its inventor as it did to his unfortunate patients. Indeed it has the same inconveniences without all the advantages of the method of Stromayer. Moreover being led away by prejudice, this great man has been induced to style it among the inscisions "sous-conjonctivale" - but as has been justly said / Boinet du Strabisme / "no other method requires a denudation of the muscle, or an inscision more extended in the conjunctiva". Second Process of M. Guerin. This one seems to have been taken from an idea of Ammon / Canier. Myot. ocul. 1840). Somewhat like that of M. Lucas. M. Andrieux. And M. Velpeau. All however derived from the above source the germ of their methods. M. Guerin still places his patient in the horizontal posture during the operation. Eye-lids supported as before. This done, he makes within, or without, according as the Strabismus is converging or diverging, a puncture with a lancet in the conjunctiva below the muscle to be divided; A small knife, concave upon its cutting edge, and bent upon its blade at almost a right angle, in two points, in the form of the letter Z, is immediately carried through this puncture into the cavity of the orbit; Penetrates from the front, behind, and a little from the circum-

ference to the centre at first, then from below, upwards, from behind, forwards, and then little by little from the centre towards the circumference: Stripping the eye, the ocular-aponeurosis and the muscle itself; the Surgeon next presents the cutting edge of the knife to the internal face of the muscle, which he prefers from within outwards, while the conjunctiva is dragged forwards and a little upon one side, that is, in the same direction of the muscle, so as to stretch it, in order to facilitate the action of the cutting instrument. A cracking sound - a little movement of the eye announces that the muscle has been divided. The knife is then withdrawn and the operation finished /Gazette Medicale 1842/. = Comparative value of the methods of operating. These are, the methods by dissection, or that of Stromeyer - and "Sous-conjonctivale". 1°. "Sous-conjonctivale". The author of this method designs to prevent inflammation, and suppuration in the divided tissues, by impeding the ingress of air into the traumatic cavity. Yet by the method of dissection, no formidable inflammatory symptoms supervene, nor any serious suppuration. Moreover by the method "Sous-conjonctivale" the air does enter the wound. It must be granted that it leaves no wound, as in the

operation by dissection. Still this is so slight that it is never conspicuous — In the other method however an infiltration of blood takes place sufficient to produce an ecchymotic swelling in the conjunctiva, and even in the whole eye-lid. It is more difficult — more painful, and its results less sure than in the method of Stromeyer. M. Guerin affirms that by his method "relapse" ie the mal-position of the eye again taking place — and Ex-ophthalmia are less apt to be produced —. Velpeau denies this. Indeed the only real advantage that the method "Sous-conjonctivale" has over the other, is to free the patient /in most instances/ from a small reddish vegetation — a species of ocular-polypus, which frequently springs from the bottom of the wound about the fifteenth day, when the operation of Stromeyer is performed. This however can be so easily subdued that it would not be an objection sufficient to induce the general practice of the method "Sous-conjonctivale", which has not been performed as yet, but by its inventor and a few other Surgeons — This method however does not invariably prevent the production of the polypus in question. Finally it must not be supposed that the Method of Guerin is a bad one — but that it is not superior to the method of Stromeyer, that it is not

less difficult – not less dangerous. Method of Stromeyer. Of all the methods invented for the cure of Strabismus – there are none which will not sometimes succeed. Since that of M. Stromeyer was performed only on the "dead subject" it was not detailed with sufficient precision for it to be retained in its native simplicity. That of M. Pauli should be abandoned – quickly forgotten. That of M. Dieffenbach completing what was wanting in that of M. Stromeyer, is the fundamental Method. With a resolute patient the fingers of an assistant are sufficient to raise the upper eye-lid. – the instrument before mentioned of Snowden is the best for this purpose. To operate upon a patient in the horizontal posture, as done by M.M. Guerin & Velpeau should be used in but few cases. The "pinces à griffe" of M. Velpeau are preferable to hooks —. The incision made into the conjunctiva can be done with a cataract knife or scissors. Isolation of the muscle, best done with a blunt hook. Division of the muscle more easily accomplished with a pair of scissors. Lastly the Methods, though many, have little real difference – and the Surgeon with care can choose any one which may best suit his taste. Indeed it is a choice more of taste than necessity.

Perhaps of all the modes practiced in Europe that of M. Velpeau is the best — But yet this operation is not performed with most simplicity in the land of its birth — It has undergone many modifications among the most eminent Surgeons in France, England and Germany. But had remained in a measure complicated till its arrival in America, where it has been reduced to a novel simplicity by Prof A. R. Smith of the University of Maryland. This distinguished Surgeon instead of making a gaudy array of instruments, such as forceps, hooks — Elevators — depressors — Knives — pinces à griffe. &c &c — performs this operation with but two simple instruments — A common pair of Scissors and a blunt hook — An assistant supports the head of the patient, with one clip of the Scissors the conjunctiva is divided, the muscle is then elevated with the blunt hook, & divided — the eye-lids are opened in the ordinary way — Ordinarily about thirty seconds suffice for the operation! ——. Treatment —— This is very simple after the operation: Two things should be kept in view — 1° Prevention of accidents. 2° To combat them if they follow. For this end, two methods, totally different, equally bad have been practiced — . . . .

Thus one party abandon totally their patients after the operation. On the contrary others treat them with an extreme rigour, as if contending with a grand ophthalmia. Both these methods in general are to be condemned. In most cases the treatment is very simple – Apply lotions of fresh water in warm weather, milk-warm water in cold weather, for the first two days. Wash carefully and regularly the eye – and eyelids. If the patient complains of any pain – a lotion of the watery solution of opium will be found a most excellent remedy. At a later period some astringent wash should be used. In case any fulness of the head should supervene, pediluvia should form an active part of our treatment, together with bloodletting, both general and topical – latter – leeches to the temples and behind the ears. The functions of the digestive organs must be strictly attended to – Nothing stimulating should be taken till after the inflammatory excitement is over. When this has taken place a solution of the Plumb. Acet. Argent. Nitras may be substituted for the anodyne collyrium. After ten or twelve days all active treatment should be laid aside.. In general, after the operation both eyes should be allowed to remain open

and the patient had better be kept in his room, without attending to any business. If however the eye does not readily assume a straight direction, the well-eye should be covered. In this case the squint eye can then be exercised in its various motions with more facility. — Consequences of the operation. Either immediate or remote - thus an incomplete cure. deviation of the eye in the opposite direction. Chemosis, Phlegmonous inflammation - Polypus - Fever, Gastro-intestinal derangement. Ophthalmia. Separation of the eye-lids. Spasmodic action of the eye. Diplopia. 1°. Incomplete cure. In some instances the operation is unsuccessful - sometimes caused by an incomplete division of the retracted tissues or even the muscle itself. The aponeurotic filaments, which spread from one muscle to the other, are sufficient to maintain the strabismus. It becomes necessary frequently to divide some other muscle, besides the internal rectus ("strabismus convergens"). Some surgeons divide also the superior oblique, but it is thought to be by many a doubtful expedient. The internal borders of the superior and inferior recti are divided with success - for they are able to maintain the strabismus, after the section of the rectus internus. In very

bad cases of long standing, the rectus externus is so much elongated, that in consequence of having lost its natural tonicity, it is unable to contract, and thus bring the eye in a straight direction: This will ordinarily be overcome by exercise. unless it is complicated with some unnatural adhesion. In these cases spectacles may be worn, the inside half of the glass for the squint eye should be made opaque: The most efficacious means are the use of a kind of compress, and certain tractions made upon the eye-ball. 1°. Compression. This is made by a small conical compress made of lint - fixed over the lids on the side next the nose; sustained by a bandage, so adjusted as to prevent the eye from turning inwards. If badly applied, it causes swelling, inflammation of the eye-lids, of the conjunctiva, phlegmonous erysipelas of the face, Chemosis, suppuration of the cornea. On the contrary if neatly done, it answers the indications very well. 2° Strand of silk. Dieffenbach was the first to use this method, it is now frequently had recourse to by other surgeons in Europe. I do not know that any such means has been used in America. A strand of silk is passed through a deep fold of the conjunctiva, and its fibro-cellular

lining, by means of a needle. The ends are fastened to the cap of the patient - thus by making gentle traction the eye is kept turned outwards. In order to prevent injurious pressure on the cornea, a fold of linen or a bale of lint is placed under the silk on the edge of the orbit, to act as a species of pulley. It should not be continued longer than five days - In External Strabismus it can be used with great advantage. then the nose will form a sort of natural pulley. If all these fail, a second division of the muscle should be practiced. 2° Deviation of the eye in the opposite direction. This sometimes happens after the operation. The eye will however frequently return to its natural position. If not, the strand of silk will serve a better purpose than in the last case. Accidents may happen during the operation. Such as the cornea-knife having been thrust through the sclerotica - Inflammation. This is generally of very little importance - treatment, already mentioned. Polypus - Various in size - sometimes as large as a hazelnut - does not make its appearance in all cases. Velpeau says that one third of his patients have been exempt from it. It happens more frequently when

the operation is performed upon the internal rectus. Many cases, nothing is requisite for its removal; in case we desire its progress arrested, a solution of Argent. Nitras — or which is much better the caustic in substance will give ample satisfaction. If it assumes the form of a cone the Caustic Potash will soon cause its removal. When it is possible, its separation by the scissors is the best treatment. Inconveniences of the operation. 1° Diplopia. Many persons see double after the operation, this will last for eight or ten days - finally it will ordinarily entirely disappear. 2° Abnormal separation of the eye-lids. This is mentioned by Phillips, Lenoir, & Dufresse. Yet Velpeau has never seen this accident in any of his patients. Its cause seems to be a large dissection of the tissues and sub-conjunctival aponeurosis: particularly the tissues which unite the eye to the eye-lids. Perhaps it is better, as directed by Velpeau in his method of operating, to make the incision through the conjunctiva, near the cornea. For its treatment, when observed immediately after the operation M. Dufresse recommends compression on the whole front of the eye-lids. 3° Ophthalmia. Sometimes the eye becomes

twice its natural size; happily this is rare – Even if it should follow the operation, it is preferable to Strabismus. This deformity takes place more frequently when many muscles in the same eye, are divided. In this, Compression is perhaps the best means for obviating as much as possible the misfortune. M. Guérin has proposed for its cure, the use of a suture passed through the eye-lids; thus closing for a while the eyes. 4° Immobility. In this, the eye remains in its mal-position after the operation. Or as sometimes will happen, the eye becomes straight, but fixed, and when this takes place in both eyes, the patient is obliged to turn his head to view objects on the side. To prevent this accident M. Velpeau recommends that 1°. The aponeurosis should not be too freely divided. 2°. That the eye should be gently exercised during the first days after the operation. Time however will suffice for its cure, when it can be effected by any other means. Counter-indications. 1°. Optic Strabismus. Persons in whom Strabismus takes place, in consequence of specks on the cornea, cicatrices &c. It has been denominated by some Surgeons optic Strabismus.. For the improvement of their vision, the deviation takes place – thus has the

opinion been generally adopted - that this variety should not be meddled with - Yet we find many hundreds of persons who have specks on the cornea - and still have no Strabismus. From this circumstance it was thought that the operation was justifiable - and Experience has since shown its truth - Now it is treated as the other varieties. 2° Strabismus fixed. In this variety if the well-eye is shut, and the patient directed to turn the squint eye outwards, for Strabismus internus - or inwards in Strabismus Externus - it will be seen that he is unable to move it in this direction. This will always happen in that variety of Strabismus occasioned by one of the muscles being paralyzed - or in case that some unnatural adhesion has taken place between the sclerotica and the orbit. Strabismus with adhesion. Anchylosis - Generally caused by wounds in the corresponding angle of the eye. Indeed the muscle, fascia, and conjunctiva are completely glued together by a firm adhesion. This makes the operation very difficult - and gives great pain to the patient. After the operation, compression in the angle of the eye should be used. Strabismus from paralysis. In many instances this is a counter indication - yet a great number will be

cures after the operation, from proper exercises of the eye. Tumours in the orbit; This variety of strabismus will of course have many modifications, if the tumour can be removed, perhaps the eye will assume its natural direction, if not the operation should then be performed. Age of Patients. The operation for strabismus will not be found to give much satisfaction, when performed upon very young children or very old persons. Benefits of the operation — 1° Cure. 2° Improvement of vision. The cure of strabismus by an operation, is no longer a question among Surgeons of the present day. It is perhaps as certain, as to the result as almost any other Surgical operation — for all will sometimes fail in spite of all that science and skill can do. 2°. Improvement of vision. Surgeons in this, as well as in many other things when first being brought into general practice, have carried it too far — In France and Germany all the muscles of the eye have been completely divided, except perhaps the two obliques. for various diseases, other than strabismus. Such as Amblyopia, Diplopia, Myopia, Amaurosis. Kopiopia. Nystagmus.

An
Inaugural Dissertation,
on
Menstruation,
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of the
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by
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On Menstruation

Menstruation has been defined to be, a periodical discharge from the uterus, of a peculiar fluid, resembling blood, which takes place every lunar month; commencing at the period of puberty & continuing until about the forty fifth year, unless interrupted by pregnancy, suckling, or disease. Against this definition there may, perhaps, be urged some objections, for some women continue to menstruate during pregnancy, and others it is said do not menstruate at all; while others think this discharge sometimes occurs during infancy. That pregnant women do sometimes have a colored discharge, there can be no doubt; but whether this be a menstruous fluid or not, it is, perhaps, difficult to say; if it be such, it may depend upon accidental circumstances, as an imperfect closure of the os tinca, or it may be owing, probably, to the vessels of the vagina taking on this process of elimination

Those cases in which the catamenia never appear, are I think, exceedingly rare. The laws imposed upon the female constitution are such, as to imperatively demand it; though there may occur instances, in which from some defect of organization, this discharge does not take place, but when this is the case the peculiar attributes of the woman are absent. I therefore, think, these might rather be considered, as exceptions, than objections

The definition as laid down by Dr. Denman, is perhaps liable to more serious objections. "He "says from the uterus of every healthy woman, who is not pregnant, and who does not give suck, there takes place at certain periods a discharge of blood, from the time of puberty till the approach of old age"

The first objection, or rather, I might say error, is that. "from the uterus of every healthy woman", which would imply that unlis a woman be healthy, she cannot menstruate. Now this is directly opposed to the experience of every practitioner, for we not unfrequently see women labouring under the most protracted forms of disease, in whom the catamenial discharge is regular.

This however will not hold good under all circumstances; for certain diseases will sometimes modify it, and not unfrequently suspend it altogether.

The 2nd objection is that of its being blood. On this point there still exists much diversity of sentiment. It was the opinion of the older Physiologists that the Catamenia consisted purely of blood, thrown out by a hemorrhagic effort of the vessels of the uterus. Indeed it is not surprising that such should have been their opinion; considering the close analogy it bears to the common mass of blood. But the investigations and experiments of subsequent physiologists, have shed a new light upon this interesting subject and have clearly demonstrated it to be a peculiar secretion eliminated by the uterine vessels. This opinion was held as early as the seventeenth century, and was taught by Saunders in 1784. Who first suggested the idea of its being a secretion, is perhaps difficult to say; as the credit is claimed by many; Haller, Bardeu, Hunter, and Saunders alike claim priority.

That the menstruous discharge is a secretion, is rendered very probable from numerous facts.
1st It must consist of blood, as circulating in other parts of the system, or else it must have undergone some modification: if the former it should exhibit all the phenomena of that fluid; if the latter, it would, most I think, be unphilosophical to suppose, that this change was effected by a secretory process.
Now the physical properties of the catamenia differ from the common circulating mass.
3d In its not possessing the property of coagulability, although it may be exposed to the influence of the atmosphere for any length of time; which is not the case with blood detracted from other parts of the body, for this, it is well known, will separate into its component parts, immediately after its extraction, unless modified by disease. Here nature has wisely provided against the inconvenience & annoyance, which would result, did this fluid possess the property of coagulation.
2d It differs in colour, not having the colour

of either arterial or venous blood; being less florid than the former & more brilliant than the latter, or in other words, a medium between the two

3rd There is also a striking difference in the odour of the two fluids; the catamenia having a very peculiar & distinct smell from that of ordinary blood, and being also less liable to decomposition

If from what has been said, the catamenia be a secretion, (and why should it not? for it is not more difficult to conceive that the uterine vessels should take on a secretory action, than for serous membranes, under certain states of excitement, should throw out an undue proportion of serous fluid,) we shall proceed to the consideration of the vessels most likely concerned in its elaboration. Some writers have supposed that the menstruous discharge, was produced by a secretory action assumed by the veins; whilst others contend that the arteries are the sole agents in the cause

Vesalius was of opinion that the veins were the agents in the production of this fluid, whilst Ruysch thought the arteries were. As this point has not as yet been fully demonstrated, we might feel some reluctance in adopting either opinion; but from what we know of the functions of the arteries, we might, I think, with safety subscribe to the theory of Ruysch, viz, that it is produced by the arteries.

Reasoning from analogy alone, we would come to this conclusion; as all the secretions of the body, save that of the bile, are eliminated by the arteries.

"Time of its appearance:- At whatever period of life the menses make their appearance, the woman is said to be at the age of puberty, or that period, at which she is capable of propagating her species. Puberty must therefore be considered as a relative term, as it is the effect & not the cause of menstruation.

The period of life, at which menstruation begins, is very various, depending on a multiplicity of causes, whose influence may tend to accelerate or protract it; such as idiosyn-

crasy of constitution; climate, society, mode of living, and peculiar habits of body.

In hot climates, girls menstruate much sooner, than those of colder regions; owing probably to the fact, that that the growth & developmen t of the body is more rapid.

In Greece, we are told that girls menstruate as early as the ninth or tenth year, and often become mothers at eleven. As we recede from the more genial warmth of the south, & approach the icy regions of the north, we find that the period of menstruation is protracted, in direct ratio, to the diminution of temperature, until we come to Lapland, where women do not menstruate, till they have arrived at an advanced period of life, and then with much irregularity.

The usual time at which girls begin to menstruate, in this Country, is from the fourteenth to the eight-teenth year of age; sometimes, however, it is protracted to a later period. Those who are brought up in large Cities have this discharge sooner, than those in,

the country. This may in part be ascribed to to the confinement & want of exercise to wh ich they are subjected, and the more luxurious manner in which they are educated.

Their early introduction into mixed society, has, no doubt, a powerful influence in promoting the Catamenia.

Signs of approach. The appearances that mark the approach of the Catamenia, are generally very striking. The whole constitution of the girl, undergoes a complete revolution; It seems as if a new life were bis up in her soul. The external configuration of the body becomes altered; its rotundity is increased, and its symmetry becomes more beautiful and perfect; the breasts are expanded, and the pubis are covered with hair; her skin is now more polished, and transparent, and the features more regular; her countenance more animated & expressive.

The eye looks more brilliant and intelligent, and the general mien of the girl, assumes a more graceful and dignified character.

The conversation and tone of voice undergo some change; the former is more agreeable; the latter more harmonious; she now no longer takes delight in childish pursuits — but her aspirations rise to higher & more noble objects. A desire for the enjoyment of the society of the opposite sex, is now manifested, and her attachments & friendships are more strong and lasting

Symptoms. The catamenia sometimes comes on very suddenly, without any premonitory signs of its approach. The first thing discovered is a slight discharge of coloured fluid escaping from the vagina, which being noticed to the patient, excites her alarm, & she communicates it to her mother, or friends, who apprise her of its true nature. More generally, however, it is preceded by symptoms, which indicate the change that is about to take place

These symptoms are generally more manifest at the first period, than at subsequent ones, and are not unlike, those arising from simple irritation of the uterus;

such as pain in the head, sometimes confined to the orbit; vertigo and fulness in the head; pain in the back and loins, and inferior extremities; sometimes accompanied with much gastric disturbance; as pain in the stomach, flatulency, borborygmi, with a train of nervous and hysterical symptoms.

There then takes place a discharge of coloured mucus from the vagina, which continues to increase in color, till the discharge is established.

The quantity. The quantity discharged at each period, is not uniform; depending on the state of the constitution, and habits of living.

The amount differs in different individuals, and varies in the same individual at different times. As a general rule, the quantity is greater in warm, than in cold latitudes; and the amount increases or diminishes in proportion to the alternations between the two extremes of heat and cold. The average quantity in this country, may be estimated at about seven ounces.

The interval between the commencement and

and completion of each evacuation, like the quantity, is subject to great variation.
In some the period is very short, not requiring more than a few hours for its completion, whilst in others the discharge is kept up for six, eight, or even ten days. Those, in whom the period of evacuation is short, do not, however, discharge the less; for some women will menstruate more in two days, than others do in six.

The catamenia generally return every month, with more or less regularity, unless interrupted by pregnancy, until an advanced age, when they gradually begin to decline. The time of life, at which they cease to flow, is generally between the years of forty and forty-five. There are, however, some exceptions to this rule. There are some cases on record, of women menstruating till sixty-five or seventy years of age, and they have been known to bear children at this age. As the period of final cessation approaches, they are marked by much irregularity

being sometimes very scanty, and at others very profuse. Women at this period are very apt to be disturbed with nervous and hysterical affections.

It has always been a prevailing opinion among old women, that the cessation of the menses, was always attended with serious consequences; and hence the apprehensions and anxieties, that women feel at the final cessation of the catamenia. The opinion entertained by them, is that they are more exposed to the ravages of disease, when the menses have declined, than they were, at any prior period; and that they are more particularly obnoxious to that malignant and terrible malady, denominated cancer.

There seems to be some foundation for these apprehensions; not, however, because the mere cessation of the catamenia, exerts any influence in the production of this disease; but because cancer is more apt to be developed in old age.

If there exists, in the uterus, a predisposition for the formation of cancer; it will, I admit, be more rapidly developed, after the courses have stopped. That the cessation of the menses has

no agency in the formation of this disease, is rendered more than probable, from the circumstance, of cancer being more frequently located in the mamma; tho, I am aware that the menstruous discharge will retard, or suspend its development. But far better to humanity, that this should be the case, than that women should continue to menstruate till the termination of their lives. To what endless misery and wretchedness would this not lead?

Women might become mothers, whilst on the very threshold of the grave, & their offsprings would often, be thrown out upon the cold charity of the world, without having a mother's care, or a parents care, but subjected by unfeeling nurses to want and suffering.

Here, again, Nature, in impressing upon the female constitution, those laws, which govern the commencement and decline of the catamenia, has prominently displayed her wisdom and her beneficence.

Having now spoken of the general character and symptoms of Menstruation, I shall

next proceed to the consideration of some of the many theories which have been advanced to account for its appearance. In doing this, I shall be compelled to pass over many of them, in silence, as the simple enumeration of them all would require more room, than is here allowed me; and indeed, many of them are so vulgar, and absurd, that they do not need a refutation.

From the earliest periods, of which we have any record, to the present day, Phylosophers and Physiologists, have labouned assiduously, to seek out some cause, that would satisfactorily account for all the Phenomena of Menstruation. All their and cavors, however, have been ineffectual. Baffled in their attempts to explain them, by any process of reasoning or physiological investigation, they called to their aid the powers of the imagination to supply, that which reason failed to offer; and hence the many hypothesses, that have at different times appeared.

The causes have been divided into efficient and final. Among the first may be mentioned, 1st Lunar influence. 2d Topical or general plethe

-ora, of the constitution. 3rd. Some peculiar humour generated in the system.

With regard to the first, it is not difficult to conceive, that this should have been mistaken for the true cause; for as it was supposed that this luminary exerted some influence in the production of the tide, it required but a little stretch of mind, to suppose that the fluids of the female system were under the control of the same body. Indeed, this at first view would seem to be a very plausible theory, since the discharge, like the ebb and flow of the tides, was periodical, and occurring within each lunar month; but a little reflection will suffice to detect its fallaciousness; notwithstanding, however, it is the opinion of many at the present day.

If the moon have any agency in its production, all females, ought to be affected alike, at the same period; but this however, is not the case; for it is directly contradicted by every day observation. There is perhaps no conceivable day or even hour, that this discharge is not taking place; so that it is evident from this fact alone, that it must be owing to some

other cause. Besides if this body had any control over the fluids of the female, it should exert a similar influence over that of the male, since they are precisely analagous, so far as the circulation is concerned, and consequently there should be a compensating discharge in the male.

The doctrine of topical congestion was first suggested by Dr. Cullen: and by the extraordinary genius, and persuasive eloquence, of this great man, many were led to adopt his opinions.

His doctrine, although, supported by much specious reasoning, and surrounded with much plausibility, is, yet, perhaps, as untenable as the first; for altho, he thought, he could satisfactorily account for the first appearance of the catamenia, and their periodical return; yet he was failed in his attempts to explain, why their occurence should be monthly.

To give all the reasons, upon which he based his theory, would extend far beyond my limits, I must, therefore be content to point out their errors, And first, If the catamenia cause,

be ascribed to a distention and rupture of the uterine vessels, produced by congestion, the discharge would be a common hemorrhage, and not a peculiar secretion, as it is now generally conceded to be, for the ruptured vessels could pour out nothing but their contents, which all must admit, is pure blood.

2 If topical congestion were the cause, the quantity discharged, would be in direct proportion to the state of the constitution, that is in proportion as the system be plethoric, or otherwise, the discharge would be increased or diminished; consequently women of a robust constitution, and full habit, would evacuate more than others of an opposite character.

This, however, is not the fact; for we often see women of a feeble and delicate frame, menstruate more than those of a full habit.

3. In accordance, with this theory, the quantity should be increased in the direct ratio to the amount of blood determined to the uterus, and hence during the period of pregnancy, when the uterus is in a state of perfe

natural excitement, there should be an undue proportion of Calorimia, which would materially interfere, if not entirely prevent the efforts of nature in the process of uterine gestation,

If then, what I have said be true, the theory of topical congestion must fall to the ground. Where then shall we seek, for a more satisfactory explanation of the phenomena of menstruation? Will the ingenious theory of Galen satisfy us? I answer no, The same errors assail us here, that appeared in the other, & what would invalidate the one, would confute the other. Galen supposed that the efficient cause of menstruation consisted in a general plethora of the system, which relieved itself by some outlet, and this outlet was generally the uterus, That general plethora cannot be the cause, is evident from the fact that the menses flow, under opposite states of the system; so that many of the objections to the theory of Dr. Gallen, would equally apply to this — but as the latter seems farther strengthened from the circumstance, that when the

the discharge from the uterus, is interrupted or suppressed, there takes place a vicarious discharge from some other parts of the body; and as this is still a disputed point among practitioners, I shall speak of it more at length, because it has, I am disposed to think led to some errors in her therapeutics.

Whether a vicarious discharge of any kind ever takes place, is not a well established fact; though there is much reason to believe, that in some diseases; as emphysema, & ulcers for instance, which have been suddenly repelled, nature does sometimes establish an other outlet, as a substitute for that which has been checked.

But in the present case, I am very much inclined to doubt the existence of a vicarious discharge; because the hemorrhages, which do sometime follow a suppression of the Catamenia, can be explained upon other principles.

Now how is this to be done? It is a well known fact, that the due performance of the function of menstruation, is absolutely essential to the enjoyment of good health, and that when this

evacuation is suppressed, the constitution suffers serious injury, and the general health of the individual is impaired, and more especially does the nervous system become disordered. Now the bleeding from the lungs, ear, nose, &c is not an effort on the part of nature, to relieve the system of that portion of blood, which should have been discharged by the uterus; but is merely an evidence of a hemorrhagic disposition, induced by the extreme irritability of the nervous system, consequent upon the impairment of the general health. Besides the blood in these cases, has no analogy to the menstruous fluid and consequently cannot be a substitute for it.

I gain, if this doctrine be true, the ill effects arising from a suppression of the menses, ought to be obviated by the establishment of these preternatural outlets; this however, is not the case, for women so circumstanced, are not relieved by these discharges, until the Catamenia are again restored.

If this were an effort of the vis Medicatrix, why do we see similar hemorrhage in men, in whom there is no such evacuation

And besides we often see periodical hemorrhages from various parts of the body, without the function of menstruation being in the slightest degree disturbed.

The opinion, that there is a ferment generated in the system, producing its specific action on the uterus, is not I believe supported by a single fact, and is without the least foundation. There is, indeed, no theory yet advanced that has thrown any light upon this curious subject, and it will, perhaps ever remain in impenetrable obscurity, so we must remain content by saying that menstruation, was ordain by Providence, to subserve some important purpose in the economy of the female, and thus its efficient cause is locked up in the bosom of Him, "in whom we live, move, and have our being"

All that we do know, is that its healthy performance, in some way, or other, connected with the process of reproduction; for there is, I believe, no well authenticated instance of a woman becoming pregnant, who had not this evacuation

Yet it may be said, that in those cases, in which the Catamenia are absent, there is some original imperfection in the genital organs, and consequently that sterility is owing to some deficiency, or want of development in these organs, and not merely to the absence of menstruation, To this it may be answered, that women who have once borne children, become barren, when the menses have been interrupted by any cause.

The opinion that the Catamenia are essential to fit the uterus for conception, is still farther strengthened from the circumstance, that animals of an inferior order, have a discharge at, or about the period of their incalescence, which indicates that they are in a favourable state for the reproduction of their species; and that the same, no doubt, is true, with regard to the menstrual discharge in females.

It is thought, by many Physiologists that the Catamenial secretion, goes to nourish the foetus in utero, but this opinion is not fully established. Indeed there seems to be good reason, for holding a contrary opinion, If we can derive any certainty, with regard

to any particular function, in the higher orders of beings, from a knowledge of those of an inferior order, we could find sufficient proof, that this secretion was not designed to nourish & support the child. For we, well know, that in the lower orders, of the class mammalia, their young are nourished & brought to perfection, without the aid of any such secretion

We might adduce other arguments, that indeed, still favour this opinion; but as we could not arrive at any thing positive, it would, perhaps, only be adding doubt & uncertainty to that which is already too obscure. I shall, therefore, bring my remarks to a close

I feel, however, that I cannot dismiss this subject without expressing, to the Medical Faculty, of the University of Maryland, my warmest acknowledgements, for the very able and distinguished manner in which, they have conducted the present course of lectures; and also for the kind attention and interest, they have ever manifested, towards the medical Class, in facilitating their studies & lessening their labours.

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